CONSTRUCTION NEWS

PERSONALS, ENGINEERING SOCIETIES, INDUSTRIAL NOTES, TRADE PUBLICATIONS.

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PERSONAL.

Mr. Albert E. Chandler is appointed State Engineer of Nevada, at Carson City.

Mr. I. H. Van Allen, Superintendent of the Buffalo Division of the Lehigh Valley R. R., has resigned.

Mr. Charles G. Fisher, of Milford, Del., has been appointed Civil Engineer to the State Highway Commission of Delaware.

Mr. John B. Newton has been appointed Vice-President and General Manager of the Virginia & Southwestern Ry., with headquarters at Radford, Va.

Prof. Samuel Fortier, of the University of Montana, has been appointed Assistant Professor in Irrigation at the University of California and Berkeley.

Mr. Charles F. McKim, architect, of New York City, was presented with the Kings Gold Medal by the Royal Society of Architects of England, on June 23.

Mr. Frank H. Olmstead has resigned as Chief Engineer of the Clark-Kerens-Traction syndicate of Los Angeles, Cal., which manipulates electric railway properties in that city.

Mr. William Weston, Mining Engineer of Colorado Springs, Colo., has been appointed Manager of the Land, Mining and Industrial Department of the Denver, Northwestern & Pacific R. R.

Mr. Michael J. O'Donnell has resigned as a member of the Board of Water Commissioners of Dunkirk, N. Y., with which he has been connected for the past 12 years, and President for two years past.

Mr. C. A. Prout, City Engineer of Wheaton, Ill., has also been appointed Acting City Engineer of Elgin, Ill. He retains his position at Wheaton, where he is in charge of the new sewerage and drainage system.

Capt. Chas. W. Rae, Chief Engineer, U. S. N., has been appointed Engineer in Chief and Chief of the Bureau of Steam Engineering of the U. S. Navy, succeeding the retiring incumbent, Rear Admiral George W. Melville.

Prof. Elwood Mead, chief of the irrigation investigations of the Government Department of Agriculture, will sail from New York on July 2 for a visit to Italy and other foreign countries, where he will make a study of irrigation.

Mr. J. Deitrich, General Manager, and twelve engineers left New Orleans for Central America on June 17 to lay out the line of the railway to be built in that country by the United States & Nicaragua Co. and the Grand Central Ry. Co.

Mr. F. D. Casanave, formerly General Superintendent of Motive Power of the Baltimore & Ohio R. R., has accepted a position with the Pennsylvania R. R., and will have charge of the company exhibit at the St. Louis Exposition in 1904.

Mr. Robert W. Fenn, Civil Engineer, has opened an office in Roseburg, Ore., to practice in his profession. Mr. Fenn is a Deputy U. S. Mineral Surveyor and was formerly in the employ of the Brazilian Government in a professional capacity.

Col. N. H. Heft, Chief of the Electrical Department of the New York, New Haven & Hartford R. R., and President of the Meriden & Stamford St. Rys., will leave the services of the first-named road. His duties will be looked after by Mr. F. S. Curtis, Fourth Vice-President.

Mr. Stephen W. Baldwin retires from the management of the New York office of The Pennsylvania Steel Co. on July 1, after more than twenty years' service, but will retain his connection with the company in an advisory capacity and as consulting engineer, with headquarters at 71 Broadway, as heretofore. Mr. A. E. Aeby, his first assistant for the past 14 years, has been appointed his successor.

Mr. R. S. Kelsch, General Superintendent and Engineer of the Lachine Rapids Hydraulic & Land Co. of Canada, has resigned. He had been connected with that company since 1897 and had also been Consulting Engineer for the Standard Light & Power Co. and the Citizens' Light & Power Co.

Myers, Finney & Morrison is the firm name of the partnership effected by Mr. E. T. D. Myers, Jr., Civil Engineer; Mr. John H. Finney, Electrical Engineer, and Mr. Hugh S. Morrison, Mechanical Engineer, to carry on a consulting practice with offices in Richmond, Va., and in Washington, D. C.

The Memphis Engineering Society elected its officers for the ensuing year on June 9 at Memphis, Tenn.: Mr. F. G. Prout, Engineer for the Consolidated Light & Power Co., President; Mr. J. A. Omberg, Jr., City Engineer, Vice-President; Mr. C. C. Pasby, Secretary, and Mr. Richard A. Odlum, Treasurer. Mr. Montgomery Gardiner, U. S. Civil Engineer, and Mr. William Gerig were elected to the Board of Directors.

OBITUARY

Mr. Charles F. Dunham, Civil and Mining Engineer, died in Montclair, N. J., on June 13, aged 49 years. Mr. Dunham was born in Brooklyn. He was formerly associated with Mr. James Owen, M. Am. Soc. C. E., of Montclair, and ten years ago went to Mexico to take charge of some mining operations in that country.

ENGINEERING SOCIETIES.

COMING MEETINGS.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
June 23 to 26. Annual meeting at Saratoga, N. Y. Secy., Prof. F. R. Hutton, 12 West 31st St., New York city.

AMERICAN WATER-WORKS ASSOCIATION.
June 23 to 26. Annual meeting at Detroit, Mich. Secy., J. M. Diven, Elmira, N. Y.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.
June 24, 25, 26. Annual convention at Saratoga Springs, N. Y. Secy., J. W. Taylor, Rookery Building, Chicago.

MASTER CAR BUILDERS' ASSOCIATION.
June 29, July 1. Annual convention at Saratoga Springs, N. Y. Secy., J. W. Taylor, Rookery Building, Chicago.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
June 29, July 3. Annual convention at Niagara Falls, N. Y. Secy., R. W. Pope, 95 Liberty St., New York.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.
July 1, 2, 3. Annual convention at Niagara Falls, N. Y. Secy., C. A. Waldo, Purdue University, Lafayette, Ind.

AMERICAN SOCIETY FOR TESTING MATERIALS.
July 1, 2, 3. Annual meeting at Delaware Water Gap, Pa. Secy., E. Marburg, University of Pennsylvania, Philadelphia

AMERICAN PARK AND OUTDOOR ART ASSOCIATION.
July 7, 8, 9. Annual meeting at Buffalo, N. Y. Secy., C. M. Robinson, Rochester, N. Y.

AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS.
July 17, 18. Annual convention at Niagara Falls, N. Y. Secy., W. M. Mackay, P. O. Box 1,818, New York city.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Jun. 25.	Bridge paving	New York, N. Y.	Jun. 18
Jun. 25.	Snag removal	Sacramento, Cal.	Jun. 18
Jun. 25.	Paving	Anderson, S. C.	Jun. 18
	Advertised, Eng. News, Jun. 18 and 25.		
Jun. 25.	Boiler plant	Indianapolis, Ind.	Jun. 18
Jun. 25.	Paving	Columbus, O.	Jun. 11
Jun. 25.	Boiler plant	Indianapolis, Ind.	Jun. 11
Jun. 25.	Pump	Niagara Falls, Ont.	Jun. 11
Jun. 25.	**Building**	**Leadville, Colo.**	**May 21**
	Advertised, Eng. News, May 21 and 28.		
Jun. 25.	Bridge	Columbus, O.	Jun. 4
Jun. 25.	Building	Fort Ethan Allen, Vt.	Jun. 4
	Advertised, Eng. News, Jun. 4 to 25.		
Jun. 26.	**Light station**	**Mobile, Ala.**	**May 28**
	Advertised, Eng. News, May 28 to June 25.		
Jun. 26.	**Paving**	**Shreveport, La.**	**May 28**
	Advertised, Eng. News, May 28 to June 18.		
Jun. 26.	**Sewers**	**Shreveport, La.**	**May 28**
	Advertised, Eng. News, May 28 to June 18.		
Jun. 26.	Pier	Washington, D. C.	Jun. 18
Jun. 26.	W.-w., electric l't plant	Clayton, Ala.	Jun. 18
	Advertised, Eng. News, Jun. 18 and 25.		
Jun. 26.	Pipe and dam	Saranac Lake, N. Y.	Jun. 18
	Advertised, Engineering News, Jun. 18.		
Jun. 27.	Water-works	Berlin, Pa.	Jun. 18
Jun. 27.	Pier	Washington, D. C.	Jun. 18
Jun. 27.	Paving	Pleasantville, N. Y.	Jun. 18
	Advertised, Engineering News, Jun. 18.		
Jun. 27.	Building	Rosebury, Ore.	Jun. 18
Jun. 27.	Building	New Orleans, La.	Jun. 18
Jun. 27.	Plumbing, wiring, etc.	Fort Greble, R. I.	Jun. 18
Jun. 27.	**Sewer**	**Milton, Mass.**	**Jun. 18**
Jun. 27.	**Bridges**	**Chicago, Ill.**	**Jun. 4**
	Advertised, Eng. News, Jun. 4 to July 2.		
Jun. 27.	**Bridge**	**Grand Rapids, Mich.**	**Jun. 4**
	Advertised, Engineering News, Jun. 4.		
Jun. 27.	**Cast-iron pipe**	**Erie, Pa.**	**Jun. 4**
	Advertised, Eng. News, Jun. 4 and 11.		
Jun. 27.	Laying pipe	Erie, Pa.	Jun. 4
	Advertised, Eng. News, Jun. 4 and 11.		
Jun. 27.	Building	Cambridge, Mass.	Jun. 25
Jun. 27.	Building	Winnipeg, Man.	Jun. 25
Jun. 29.	Ditch	Jefferson, Ia.	Jun. 18
Jun. 29.	Building	Glenville, O.	Jun. 11
Jun. 29.	Sea wall	West Point, N. Y.	Jun. 18
Jun. 29.	Repairs, wiring, etc.	New York, N. Y.	Jun. 18
Jun. 29.	Building	Atlanta, Ga.	Jun. 18
Jun. 29.	Building	Lawton, N. Dak.	Jun. 25
Jun. 29.	Sewer	Grand Rapids, Minn.	Jun. 25
Jun. 29.	Bridge work	Watseka, Ill.	Jun. 25
Jun. 30.	Ditch	Minneapolis, Minn.	Jun. 25
Jun. 30.	Paving	New York.	Jun. 25
Jun. 30.	Sewers	New York, N. Y.	Jun. 25
Jun. 30.	Steel bridges	Spartansburg, S. C.	Jun. 25
Jun. 30.	Bridges	Urbana, Ill.	Jun. 25
Jun. 30.	Bridge	Sioux City, Ia.	Jun. 25
Jun. 30.	Pork packing plant	Stouffville, Ont.	Jun. 25
Jun. 30.	Water-works	South Deerfield, Mass.	Jun. 25
Jun. 30.	Railway tunnel (D., N. & P.)	Colorado	Jun. 18
	Advertised, Engineering News, Jun. 18.		
Jun. 30.	Bridges	Pikeville, Ky.	Jun. 11
Jun. 30.	Water-works	Hanley Falls, Minn.	Jun. 18
Jun. 30.	Bridge draw	Newark, N. J.	Jun. 18
	Advertised, Eng. News, Jun. 18 and 25.		
Jun. 30.	Cement	Regina, N. W. T.	Jun. 18
Jun. 30.	Paving	Hamburg, N. Y.	Jun. 18
Jun. 30.	Dredges	Philadelphia, Pa.	May 14
	Advertised, May 14, 21, and Jun. 11, 18.		
Jun. 30.	**Fencing**	**Gettysburg, Pa.**	**Apr. 16**
Jun. 30.	**River work**	**New Orleans, La.**	**May 7**
	Advertised, Eng. News, May 7, June 18, 25.		
Jun. 30.	Building	Plainview, Minn.	Jun. 4
July 1.	**Building**	**Carnesville, Ga.**	**May 28**
July 1.	Bridges (2)	Ottawa, O.	Jun. 4
July 1.	Levee work	West Memphis, Ark.	Jun. 4
July 1.	Barges	Memphis, Tenn.	Jun. 4
	Advertised, Eng. News, Jun. 4 and 11.		
July 1.	Building	Boonville, Ind.	Jun. 4
July 1.	Building	Binghamton, N. Y.	Jun. 11
July 1.	Bridge	Hartford, Conn.	Jun. 11
	Advertised, Engineering News, Jun. 11.		
July 1.	Coagulating basins (W.-w.)	Richmond, Va.	Jun. 18
	Advertised, Eng. News, Jun. 18 and 25.		
July 1.	Building repairs	Brooklyn, N. Y.	Jun. 18
July 1.	Gun carriages	Washington, D. C.	Jun. 18
July 1.	Building	New York, N. Y.	Jun. 18
July 1.	Paving	Lakewood, O.	Jun. 18
July 1.	Building	Waco, Tex.	Jun. 18
July 1.	Paving	New York, N. Y.	Jun. 25
July 1.	Sewers	New York, N. Y.	Jun. 25
July 1.	Dam	Albany, N. Y.	Jun. 25
July 1.	Building	Cleveland, O.	Jun. 25
July 1.	Sewers	Williamsport, Pa.	Jun. 25
July 1.	Building	Utica, N. Y.	Jun. 25
	Advertised, Engineering News, Jun. 25.		
July 2.	Sewers	Newark, N. J.	Jun. 25
	Advertised, Engineering News, Jun. 25.		
July 2.	Fire-alarm telegraph, etc.	New York	Jun. 25
July 2.	Fences	New York, N. Y.	Jun. 25
July 2.	Repairing bridge	Duluth, Minn.	Jun. 25
July 2.	Bridge	Boston, Mass.	Jun. 25
July 2.	Paving	Bryan, O.	Jun. 11
	Advertised, Engineering News, Jun. 11.		
July 2.	Wash borings	New York, N. Y.	Jun. 18
July 3.	Bridge	Deerfield, Mich.	Jun. 18
July 3.	Paving	Rensselaer, N. Y.	Jun. 18
	Advertised, Eng. News, Jun. 18 to July 2.		
July 3.	Paving	Cincinnati, O.	Jun. 25
July 3.	Paving	Washington, D. C.	Jun. 25
	Advertised, Eng. News, Jun. 25 and July 2.		
July 3.	Paving	Rensselaer, N. Y.	Jun. 25
	Advertised, Eng. News, Jun. 25 and July 2.		
July 4.	Bridge	North Easthope, Ont.	Jun. 25
July 6.	Building	Norwich, Conn.	Jun. 11
July 6.	Drainage ditch	Charleston, Mo.	Jun. 18
	Advertised, Eng. News, Jun. 18 and 25.		
July 6.	Iron, etc.	Watervliet, N. Y.	Jun. 18
July 6.	Building	Cleveland, O.	Jun. 18
July 6.	Paving	Niagara Falls, Can.	Jun. 18
	Advertised, Engineering News, Jun. 18.		
July 6.	Building	San Bernardino, Cal.	Jun. 25
July 6.	Paving	Canonsburg, Pa.	Jun. 25
	Advertised, Engineering News, Jun. 25.		
July 6.	Building repairs	New York, N. Y.	Jun. 25
July 6.	Building	Norwich, Conn.	Jun. 25
July 6.	Paving	Menominee, Mich.	Jun. 25
July 6.	Paving	Kalamazoo, Mich.	Jun. 25
	Advertised, Engineering News, Jun. 25.		
July 6.	Paving	Warrensburg, Mo.	Jun. 25
July 6.	Concrete apron, etc.	Houston, Tex.	Jun. 25
July 6.	Lighting	Salem, Ore.	Jun. 25
July 6.	Water-works	Stuart, Neb.	Jun. 25
July 6.	Bridges	Davenport, Wash.	Jun. 25
July 6.	Bridges (3)	Butler, Mo.	Jun. 25
July 6.	Pipe laying, etc.	Perth Amboy, N. J.	Jun. 25
	Advertised, Engineering News, Jun. 25.		
July 7.	Building	Dedham, Mass.	Jun. 25
July 7.	Sewer	Summit, N. J.	Jun. 26
	Advertised, Eng. News, Jun. 25 and July 2.		
July 7.	Building	Lawrence, Kan.	Jun. 25
July 7.	Sewers	Birmingham, Ala.	Jun. 25
July 7.	Bridge work	Deadwood, S. Dak.	Jun. 25
July 7.	Electric light plant	Mifflinburg, Pa.	Jun. 25
July 7.	Bridge	Stockton, Cal.	Jun. 25
July 7.	Pumping engine	Reading, Pa.	Jun. 11
	Advertised, Eng. News, Jun. 11 to July 2.		
July 6.	Lighting	Salem, Ore.	Jun. 4
July 7.	Tunnel	Boston, Mass.	Jun. 18
	Advertised, Eng. News, Jun. 18 to July 9.		
July 7.	Bridge	Anderson, Ind.	Jun. 18
July 7.	Water-works	Walnutport, Pa.	Jun. 18
	Advertised, Eng. News, Jun. 18 to July 9.		
July 7.	Paving	Alexandria, La.	Jun. 18
	Advertised, Eng. News, Jun. 18 to July 2.		
July 7.	Roads	Paoli, Ind.	Jun. 18
July 7.	Building	Moundsville, W. Va.	Jun. 18
July 8.	River work	Lorain, O.	Jun. 18
July 8.	Bridge	Yale, Ore.	Jun. 18
July 8.	Building	Waco, Tex.	Jun. 11
	Advertised, Eng. News, Jun. 11 and 18.		
July 8.	Road	Cleveland, O.	Jun. 18
July 8.	Sewer	Emmetsburg, Ia.	Jun. 25
July 8.	Bridge	San Rafael, Cal.	Jun. 25
July 8.	Bridge work	Madison, Ind.	Jun. 25
July 8.	Pipe laying, etc.	Needham, Mass.	Jun. 25
	Advertised, Engineering News, Jun. 25.		
July 8.	Water-works	Alexandria Bay, N. Y.	Jun. 25
	Advertised, Engineering News, Jun. 25.		

July 9. Irigation conduit, Cheyenne, Wyo. .....Jun. 25
July 9. Paving, Cleveland, O. .....Jun. 18
July 9. Building, Fort McPherson, Ga.....Jun. 18
July 9. Paving, Bryan, O. .....Jun. 18
Advertised, Eng. News, Jun. 18 and 25.
July 10. Dredging, New York, N. Y.....Jun. 11
Advertised, Eng. News, Jun. 11 to July 9.
July 10. Water-works, Sioux City, Ia.....Jun. 18
Advertised, Eng. News, Jun. 18 and 25.
July 10. Paving, Lorain, O. .....Jun. 18
July 10. Arc lamps, Danville, Ill. .....Jun. 25
July 10. Bridge, Castlewood, S. Dak. .....Jun. 25
July 11. Water-works, Sioux Falls, S. Dak. .....Jun. 25
Advertised, Eng. News, Jun. 25 and July 2.
July 13. W.-w. and elct l't plants, Yazoo City, Minn. Jun. 18
Advertised, Eng. News, Jun. 18 to July 2.
July 13. Bridge, Brainerd, Minn.....Jun. 18
July 13. Sewers, Yazoo City, Miss.....Jun. 18
Advertised, Eng. News, Jun. 18 and 25.
July 13. Bridge, Ellendale, Wash.... .....May 28
July 13. Building, La Grange, Ga.....May 7
July 13. Sewers, Bond Hill, O. .....Jun. 25
July 13. Building, Farmesville, La. .....Jun. 25
July 13. Bridge, Chillicothe, O. .....Jun. 25
July 14. Building, Rapid City, S. Dak. .....Jun. 25
July 14. Building, Winston, N. C. .....Jun. 25
July 14. Wheel pit, etc., Niagara Falls, Ont.....Jun. 18
Advertised, Eng. News, Jun. 18 to July 16.
July 14. Steel shed, (Misc. Cont.), New Orleans, La. Jun. 18
Advertised, Eng. News, Jun. 18 and 25.
July 14. Paving, Dayton, O. .....Jun. 18
July 15. Brewery, South Bend, Ind. .....Jun. 18
July 15. Irrigation work, Washington, D. C.....Jun. 11
Advertised, Eng. News, Jun. 11 to July 9.
July 15. Water-works, Dallas, Tex. .....Jun. 18
Advertised, Eng. News, Jun. 18 to July 9.
July 15. Coal plant extension, Washington, D.C.... Jun. 4
Advertised, Eng. News, Jun. 4 and 11.
July 15. Bridge, Burlington, Ia. .....Jun. 4
Advertised, Engineering News, Jun. 4.
July 15. Buildings, Newberry, Mich. .....Jun. 25
July 15. Building, Corunna, Mich. .....Jun. 25
July 15. Sinking well, San Antonio, Tex .....Jun. 25
July 16. Dredging, Norfolk, Va. .....Jun. 25
Advertised, Eng. News, Jun. 25 and July 2.
July 16. Building, Waterbury, Conn.....Jun. 18
Advertised, Eng. News, Jun. 18 and 25.
July 17. Fire boat, Portland, Ore.....Jun. 11
July 18. Concrete work, Detroit, Mich. .....Jun. 18
Advertised, Eng. News, Jun. 18-25, July 9-16.
July 20. Paving, Houston, Tex. .....Jun. 25
July 21. Bridge, South Bend, Ind. .....Jun. 25
July 21. Cement, Charleston, S. C.....Jun. 25
Advertised, Eng. News, Jun. 25 to July 23.
July 22. Steam plant, Grand Rapids, Mich.....Jun. 25
Advertised, Eng. News, Jun. 25 to July 23.
No date. Railway work (B. & O.), Ohio .....Jun. 18
" . Water-works, etc., Horseheads, N. Y.....Jun. 18
Advertised, Eng. News, Jun. 18 and 25.
No date. Water supply, Horseheads, N. Y.....Jun. 11
Advertised, Engineering News, June 11.
No date. Railway (M. & G.), Cape Breton, Can.....Jun. 25
Advertised, Eng. News, Jun. 25 to July 16.

RAILWAYS.

(For foreign railways, see under "Mexico," and "Foreign Contracts and Export News.")

ALLEGANY & WESTERN CONNECTING.—Contracts will shortly be let, it is reported, for building this road which will connect the West Penn at Harmarville, Pa., with the P. & W. or B. & O. at Valencia. The line will be 15 miles long, with a max. grade of 1% and max. curvature of 6°. W. E. Fehl, Pittsburg, Pa., is Pres.

BALTIMORE & OHIO.—Contracts have been let for double tracking the line of the former C., L. & W. between Flushing and Bridgeport, O., 19 miles, which with the Flushing tunnel will require about 1½ years time in completion. The next double tracking will be between Bellaire and Bridgeport.——Jos. Fuccy has a contract for building a 3-mile section of the road from Burnsville to Buckhannon. Ferguson & Douglas also have a part of that line, which will be 12 miles in length.

BELLINGHAM BAY & BRITISH COLUMBIA.—J. J. Donovan, Ch. Engr., Whatcom, Wash., informs us that the contract for the Hampton-Lynden branch, 5½ miles, has been let to A. C. Goeriz, of Everett, Wash.

BELINGTON & NORTHERN.—Contract let to the Rinehart-Dennis Co., composed of W. A. Rinehart, Covington, Va.; Capt. Dennis, Richmond, and others, for building 63 miles of this road.

CANADIAN PACIFIC.—Extension from the Guelph (Ont.) Junction Ry. to Goderich, Ont., reported likely. W. F. Tye, Asst. Ch. Engr., Montreal, Que.

CENTRAL COAL & COKE CO.—Reports from Rock Springs, Wyo., state that the officials of this company have announced their intention of building a branch road from Rock Springs to its coal mines, 14 miles north.

CENTRAL STATION RY. CO.—This company, a Wabash interest, of Toledo, O., has issued $4,500,000 in bonds of the $10,000,000 authorized by the stockholders for terminal improvements in Toledo, St. Louis and elsewhere.

CHATTANOOGA SOUTHERN.—W. W. Kent, Gen Mgr., Chattanooga, Tenn., writes us that the company is doing its own work on the branch line to the foot of Lookout Mt., about 2½ miles long. Work is not difficult and will be finished by September.

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—Reported that the Street Improvement Co. of Pueblo, Colo., received the contract for double tracking the tracks on this road between Cincinnati O., and Chicago.

DENVER, YANKEE HILL & WESTERN.—It is said that work on the grading of this line will soon start. The road will run from Yankee Hill to Central City, Colo., and be principally a mining road. Henry I. Seemann, Pres. and Gen. Mgr., Yankee Hill Consolidated Mining Co., Denver, Colo., may be able to give further particulars.

DULUTH & IRON RANGE.—Reported that a new line between the Mesaba range and Ely, Minn., will be built, shortening the distance and improving the grades. R. Angst, Duluth, Minn., is Ch. Engr.

DULUTH, MISSABE & NORTHERN.—John Runquist, Grasston, Minn., has received a contract for an extension to the Chisholm mine, 2½ miles, and another to the Clark mine, near Chisholm, one mile long.

ERIE R. R.—This company will expend about $500,000 on improvements to its property in New Castle, Pa. W. L. Deer is Ch. Engr., 21 Cortlandt St., New York.

FARMERSVILLE & SOUTHERN.—W. H. Dennison has received a contract for the first five miles of this road. He is located at Farmersville, La.

GREAT NORTHERN.—Work is expected to commence soon on the Columbia Falls.——Jennings, Mont., cut-off, some 100 miles in length. It will cost nearly $2,000,000. A. H. Hogeland is Ch. Engr., St. Paul, Minn.
July 23. Building, etc., Washington, D. C.....Jun. 18

GARLAND WESTERN.—Reports from Hot Springs, Ark., say that the permanent survey has just been completed for this line to a point 10 miles west and the right of way for that distance purchased. The balance of the survey will be undertaken at once and construction will immediately follow its completion.

LIMA & LAKE MICHIGAN.—Litigation having ended the construction of this road will be taken up within a short time. Chief Engineer Hobart has made a survey. Lima, O., is probably the company's headquarters.

LAWTON & CHICKASAW CENTRAL.—We are informed that as soon as arrangements for capital are completed work can be started. The promoters want to begin grading within six months and would like to interest capitalists in the road. The line will be about 85 miles long. J. W. Martin is Pres., Lawton, Okla.

MABOU & GULF.—Bids are wanted by J. Boardman Cann, Pres., Mabou, Cape Breton, Can., for constructing 30 miles of this road complete, except equipment, as stated in our advertising columns.

MAINE CENTRAL.—Company will probably fill in the flats on the northerly shore of the Fore River at Portland, Me., for about 2,650 ft., to be used as a freight yard. Chief Engineer Dunn has the plans.

NEW ORLEANS & GULF RY. & NAVIGATION CO.—This company has for its purpose the reclamation of 500,000 acres of swamp land between the Mississippi River and Bayon La Fourche, La., the construction of a ship canal and of a system of railways. John R. Rothwell, Chicago, and Carthage, Mo., is the chief promoter and president of the company and J. Francis LeBaron, Cleveland, O., Ch. Engr. It is stated that the capital of $10,000,000 is already secured.

NEW YORK CENTRAL.—Improvements are planned at Utica, N. Y., which will result in making that city a center terminal. A new channel will be made in the river and the old one filled in, giving increased space for the improvements. H. Fernstrom is Ch. Engr., New York.

OREGON & PACIFIC CONSTRUCTION CO.—Col. F. W. Draper, Ch. Engr., while in Eureka, Cal., on June 9, stated that the company had working at that time three surveying parties in the field north of the Klamath River. It is proposed to build a road north from Eureka to Grants Pass and Coos Bay.

PENNSYLVANIA R. R.—President Cassatt has placed an order for 202,000 tons of steel rails for delivery next year as follows: U. S. Steel Corporation, 118,000 tons, Cambria Steel Co., 42,000 tons; Pennsylvania Steel Co., 42,000 tons.

PENNSYLVANIA R. R.—Contracts will be awarded at once, it is said, for improvements along the main line between Pittsburg and Altoona, Pa., in the shape of reducing grades and eliminating curves costing about $3,000,000. Between Millwood and Latrobe a deep cut will be made. Pittsburg Division will receive $10,000,000 this year for improvements, a greater portion of it being used in the work of straightening out the main line.——An expenditure of $500,000 on improvements to the 50th St. freight yard, West Philadelphia, has been authorized by President Cassatt. The money is for enlarging the yard, laying 10 miles of new track, constructing new engine houses, shops, transfer station and freight house.——Track elevation in the East End, Cincinnati, O., will soon commence. Edward Green, Supt. Dept. Track Elevation, states that plans are completed and will soon be approved. The cost including 28 crossings, is $1,500,000.——Chief Engineer Brown has awarded a contract to the Smith Construction Co. for the change of line between Mayes and Granville bridge on the middle division, including two stone bridges over the Juniata River; also for the line from Manayunk bridge to Newton Hamilton. A contract was also awarded to McMenamin & Simms, Philadelphia, for constructing track from Lilly's to Portage, about five miles long. The Smith company is also of Philadelphia.

PENNSYLVANIA R. R.—Chief Engineer Brown states that all bids for the construction of the New York City terminal and tunnels will be invited from the company's office in that city. The chief engineer of tunnels has his office at 20 West 34th St., New York. The company has already started work on removing buildings on the site of this proposed terminal, which will extend from Seventh to Ninth Ave., 31st to 33d St. Over 400 buildings will be removed.

PENNSYLVANIA WESTERN.—Edw. B. Taylor, Pres., Pittsburg, Pa., writes that surveying is nearly completed but no contracts are let as yet for the line from Enon, Pa., on the P., Ft. W. & C. Ry. to Red Bank on the Allegheny Valley Ry., about 60 mil s. The line will be a cut-off on the Pennsylvania Lines West. The date of beginning construction is not decided. Thos. Rodd is Ch. Engr.

PERE MARQUETTE.—Frank H. Alfred, Ch. Engr., Detroit, Mich., writes that a survey is now being made from Hart to Ludington, 19¼ miles, but nothing is decided upon as to construction.

ST. LOUIS, BROWNSVILLE & MEXICO.—The contract for constructing this recently chartered road from Sinton to Brownsville, Tex., 265 miles, has been let to Johnstone Bros., St. Elmo, Ill. Construction is to begin at once and be completed within a year. Uriah Lott is Pres. and C. Kleberg, Secy., headquarters at Corpus Christi, Tex. The "Frisco" is interested.

ST. LOUIS & ST. PAUL.—W. C. Picking, Memphis, Mo., writes that a survey is now well under way from the north, beginning at Memphis, right of way is being secured. Contracts will soon be awarded. Samuel F. Scott, Kansas City, Mo., is Pres., and J. J. Sanders, Memphis, Mo., Ch. Engr.

"SUNSET."—It is planned to build an extension from Pioneer to Maricopa, Cal., 2½ miles. John D. Spreckels and Mattson & Crocker, San Francisco, are interested.

UNION PACIFIC.—Surveyors are in the field in the vicinity of Thayer Station, Wyo., 19 miles east of Rock Springs, Wyo., and are running lines for a branch road to the Union Pacific Coal Co.'s coal properties in the Horse Thief Canon district some 15 or 18 miles distant. J. B. Berry is Ch. Engr., Omaha, Neb.

UNION RY.—A branch track to the new South Memphis, Tenn., manufacturing suburb is proposed. H. G. Fleming, Memphis, is Pres.

VIRGINIA R. R.—K. T. Crawley, Pres., Farmsville, Va., informs us that surveys are completed and half of the right of way secured for the 110 miles of this road. Contracts will be let this fall. The line will run from Rosney to Danville, touching various towns en route. Wm. Ingles, Radford, is Ch. Engr.

WHITE RIVER & MOUNTAIN HOME.—We are informed that a preliminary survey is now being made for this line. The election of the company's officers will soon take place, when the plans will be discussed. Later a permanent survey will be made and contracts awarded. The line will be 12 miles long, and will run from Cotter to Lythia Springs and Mountain Home, Ark. C. S. Slayback, Mountain Home, is Ch. Engr.

YOUNGSTOWN & SOUTHERN.—A contract has been let to Pat Joyce, Veeder Heasley and J. W. Fawcett, Youngstown, O., for building this road. Work begins at once.

NEW INCORPORATIONS AND CHARTERS.

FENTON & THOMSON.—Ill.—To build a branch road between the points named for the C., B. & Q. R. R., to be about 12 miles long; cap., $400,000; H. W. Wells, Hinsdale; C. V. Carpenter, Dower's Grove, and J. A. Connell, La Grange, are incorporators.

FLINT RIVER & NORTHEASTERN.—Ga.—Cap., $300,000; to build about six miles of road in this state. A. W. Mallett, Albany; D. W. Rogers, Pelham; Geo. W. Gray, Waycross, are interested.

FORT SMITH, BLACKWELL, WELLINGTON & NORTWESTERN.—Okla.; Cap., $1,000,000; route, from Fort Smith northwest to Cleveland and Blackwell, and from these lines will run to Wellington and to Perry. Incorporators are Blackwell and Wellington men.

NICHOLSON & NORTHERN PENNSYLVANIA.—N. Y.—Line from Binghamton, N. Y., southwest to Nicholson, Pa., 45 miles. Incorporators, C. L. B. Tyler, Newark, N. J., and M. P. Flinch, Nichols, N. Y.

SUPERIOR & SOUTHEASTERN.—Wis.—Will build a line from Pratt through Ashland and Sawyer counties to a junction with the Chippewa Valley & Northwestern about 60 miles; cap., $50,000. John E. Glover and L. A. Baker, New Richmond, and H. S. Barker, Hudson, Wis., are interested.

STREET AND ELECTRIC RAILWAYS.

(For foreign street railways, see under "Mexico," and "Foreign Contracts and Export News.")

CAMDEN, ME.—C. E. Littlefield, H. L. Shepard and E. E. F. Knowlton are interested in the proposed electric road from Camden to Liberty.

MANCHESTER, N. H.—Edward S. George, Gen. Supt. Uncanoomic Incline Ry. & Development Co., writes that the proposed incline road is partly surveyed and contracts will be let about Aug. 1. It will be a trolley line with a 3,000 ft. cable incline. Ed. C. Smith is Pres., and Frank A. Gay, Ch. Engr.

ALBION, N. Y.—The Albion Electric Ry. Co. is preparing to continue work on the line from Lockport to Rochester, which was started last fall. Lorenzo Burrows is Pres.

ATLANTIC CITY, N. J.—The rights of way for the electric railway from this city to Gloucester have been secured by the Delaware River & Atlantic R. R. Co. A. Engstrom, Engr., Bullitt Bldg., Philadelphia, Pa.

HAINESPORT, N. J.—Northampton township committee has granted the Burlington County Traction Co. permission to change the power on its Mt. Holly road from horse to electricity. Geo. Brock, Moorestown is Vice-Pres.

McKEESPORT, PA.—The officers of the McKeesport St. Ry. Co. have decided to at once begin the construction of the McKeesport-Clairton line for about 20 miles.

PHILADELPHIA, PA.—The Philadelphia Rapid Transit Co. will build a line from 52d St., to the city line.

PHILADELPHIA, PA.—The Philadelphia Rapid Transit Co. is planning a power house on its Green and Beech St. properties on the Delaware River; $1,500,000 will be involved. Westinghouse Machine Co., New York, have the contract for equipment.

POTTSVILLE, PA.—R. H. Koch, Pres. Cumberland & Westernport Electric Ry. Co., writes that a road has been built to Lonaconing, and that construction is now under way on the Lonaconing & Westernport road; about 30 miles of electric road will be built in all.

YOUNGWOOD, PA.—The Pittsburg, McKeesport & Connellsville Ry. Co. is locating the extension of its Greensburg & Southern line from Youngwood through Armbrush and Hecla to Mt. Pleasant, about 10 miles, all in Westmoreland Co. Thos. Elliott, Gen. Mgr., and A. E. Hess, Cy. Engr., Connellsville.

CHESTER, W. VA.—W. L. Smith and J. E. McDonald, East Liverpool, have a franchise to build a street railway from this place to Congo, opposite Wellsville, O.

CLARKSBURG, W. VA.—The Salem Terminal Traction Co. has incorporated; $200,000. C. E. Barnes, Pittsburg; H. B. McKinley and others are interested.

BILOXI, MISS.—Franchise granted to the Biloxi Electric St. Ry. & Power Co.

CINCINNATI, O.—The Cincinnati, Lawrenceburg & Aurora Electric St. Ry. Co. will shortly begin extending its line from Aurora to Rising Sun, Ind., 9½ miles. Surveys have been made. P. Hanns is Ch. Engr.

CINCINNATI, O.—The Cincinnati, Georgetown & Plymouth Electric Ry. will soon let contracts for masonry, track work, etc., on the line from Georgetown to N. Union. C. M. Gordon is Ch. Engr.

DAYTON, O.—The City Ry. Co.'s line will be extended through Dayton View.

MARIETTA, O.—T. M. Ripley, Ch. Engr., Marietta, Woodfield & Barnesville Ry., informs us that a preliminary survey has been made and rights of way are being secured for the proposed 82 miles of electric line, touching the towns named and other points. R. Merydith is Pres.

SALEM, O.—Contract for constructing the Salem Electric road between Sebring and this city let to the McGinty Construction Co. of Minerva.

ATLANTIC, IND.—The promoters of the electric line from Des Moines and Council Bluffs and Logan have elected officers and arranged for commencing surveys at once, appropriations of $7,000 for that work having been secured. Surveys will be finished by September.

BOONEVILLE, IND.—Council has granted franchise to the Evansville, Booneville & Rockport Traction Co. Work will begin within a year.

INDIANAPOLIS, IND.—The Commissioners of Marion County have granted a franchise to Chas. L. Henry, Pres. Cincinnati & Indianapolis Traction Co., for a line over the county roads.——The surveys for the Logansport-Chicago extension of the Indianapolis Northern have been completed and stakes set through Royal Center, Winamac, North Judson and La Crosse to Valparaiso. Grading will start immediately. The Indianapolis Northern is leased to the Union Traction Co. of Indiana, of which company W. H. Blass is Ch. Engr., Anderson.

VERNON, IND.—A franchise will be asked of the county commissioners for the Southeastern & Western Traction line; cap. $30,000. Line will run from Columbus to Azalia and North Vernon. F. T. Crump, John Crump and B. B. Jones are incorporators.

HARRISBURG, MICH.—Charters have been issued by the State Dept. to the following companies: Pottsgrove Traction Co., $130,000, to build 21 miles of road in Pittstown, West Pottsgrove and Lower Pottsgrove. Geo. H. Malsberger, Pottstown, Pres.; the Montgomery & Berks

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

Traction Co., $30,000, to build five miles of road in Lower Pottsgrove and West Pottsgrove. I. A. Sweigard, Atlantic City, Pres.; the Chester County Traction Co., $48,000, for an 8-mile road through West Chester and Downingtown. Frank C. Dade, S. A. Boyle, Jr., and Joseph Thorne, Philadelphia, are directors: the Denver St. Ry. Co., $48,000, to build from Denver to Reamstown. Geo. C. Reichner, West Chester, Pres.; Cleveland, Chardon & Meadville St. Ry., $18,000, North Shenango to Linesville, three miles. W. C. Warner, Cleveland, O., Pres.; McKeesport St. Ry. Co., $42,000, seven miles of road. T. C. Jones, McKeesport, Pres.; McKeesport & Clairton Connecting R. R., $40,000, four miles. J. D. O'Neill, McKeesport, Pres.; Harrisburg & Riverton St. Ry., $12,000, two miles. M. F. Thompson, Carlisle, Pres.; Hampden St. Ry., Philadelphia, $36,000, six miles of line. Arthur Colville, Philadelphia, Pres.; Boiling Springs, Mt. Holly St. Ry., $18,000, three miles. Jacob H. Foreman, Carlisle, Pres.

ST. JOSEPH, MICH.—The Chicago, Michigan & Indiana Electric Ry. Co., Benton Harbor, has incorporated with $3,000,000, and will build an electric road from Chicago to several points in Southwestern Michigan.

WYANDOTTE, MICH.—J. M. Griffith, Wyandotte, informs us that contracts will be let at once for building the line of the Ohio & Michigan Traction Co., some 50 miles in length. Surveys are completed and rights of way and construction capital secured. Electricity will be the motive power. J. W. Clauss, Tremont, O., Pres., and L. L. Austin, Toledo, O., Secy.

DIXON, ILL.—G. H. T. Shaw, De Kalb & Southwestern Electric Ry. Co., writes that this company will build an 18-mile line to be an extension of the Northern Illinois Electric Ry. The line is already under construction. A. M. Shaw is Ch. Engr., Dixon.

ELIZABETH, ILL.—James M. Hamilton, Elizabeth, writes that the survey of the Iowa, Illinois & Wisconsin Electric Ry. is practically settled and runs over a difficult piece of country. No right of way is secured. Pat Flynn, Merchants Hotel, Dubuque, Ia., has contracted to deliver a route with a max. grade of 65 ft. to the mile and 5° curvature. Time of letting contracts for construction is not decided. The line will be 30 miles long and run from East Dubuque to Platteville, Wis. Peter Kiene is Pres., Dubuque.

MORRISON, ILL.—P. A. Bent, Gen. Mgr. and Ch. Engr. Morrison & Denrock Electric Ry., writes that the right of way for the 15 miles of road is secured. Geo. Milne is Pres.

SPRINGFIELD, ILL.—Horace S. Reardon states that the right of way for the Springfield & St. Louis electric line has been secured from this city to Virden.

SPRINGFIELD, ILL.—The Springfield Ry. & Light Co. will expend $242,000 in improvements as follows: New electrical equipment, $155,000; new power house, $45,000; new cars, $30,000; new road equipment, $5,000, tube bought at once; new car barn, $5,000; repainting old cars, $2,000. Emil G. Schmidt is Gen. Supt.

DAVENPORT, IA.—The Davenport & Suburban Ry. has let a contract to the International Co. of Detroit for building a line to Muscatine.

BEAUMONT, TEX.—The Beaumont Traction Co. will build to Spindle Top.

EL PASO, TEX.—An electric railway is being promoted between here and San Elizario, 22 miles, by Geo. Pence.

LOCKHART, TEX.—A permanent organization has been effected by the road which will run between Seguin, Staples, Lockhart, San Marcas and Austin. T. L. Griffin, San Marcas, and Carey Smith, Lockhart, are interested.

COLORADO SPRINGS, COLO.—The Manitou & Pike's Peak Ry. has completed surveys and plans and secured rights of way for an extension of its (steam) road from the summit of Pike's Peak to Cripple Creek, nine miles. The extension will be electric and will cost approximately $750,000.

SPOKANE, WASH.—Washington Water Power Co. will ask council for a franchise for two lines of street railway extending across the Hangman Creek bridge and through West Grove and Queen Anne Additions.

SPOKANE, WASH.—The Spokane Traction Co. proposes to extend its line to Fort Wright.

BAKER CITY, ORE.—Local papers state that Dr. Lon Cleaver will build an electric railway from this city to the Oregon Wonder mines.

PRAIRIE CITY, ORE.—J. W. Bonta states that the electric line to Prairie City from Portland will be built at once.

FRESNO, CAL.—General Manager Wishon of the Fresno St. Ry. Co. states that plans are being prepared under his direction for 10 extensions, as well as the rebuilding of the Berry and Einstein lines.

SANTA CRUZ, CAL.—C. N. Cassin has been granted a franchise for an electric railway on Pacific Ave., running to Seabright.

BISBEE, ARIZ.—An electric street railway connecting the residence portion of this city with the business is contemplated. Phelps, Dodge & Co., are reported interested.

CHATHAM, ONT.—The Chatham, Wallaceburg & Lake Erie Ry. has secured its charter and will build from here to Wallaceburg, Petrolia and Rondeau. Mr. Stevens, Chatham, is the promoter.

LIGHT, HEAT AND POWER PLANTS.

(For foreign light, heat and power plants, see under "Mexico," and "Foreign Contracts and Export News.")

HOLYOKE, MASS.—Holyoke Water Power Co. have petitioned for site for erecting new power plant.

BOONVILLE, N. Y.—Contract for building dam for village electric light plant was let to Beardsley Dam & Gravity Co., Elkhart, Ind.

HAVERSTRAW, N. Y.—Rockland Light & Power Co. has secured control of Haverstraw Electric Light & Power Co., and will make improvements.

NEW YORK, N. Y.—The Long Acre Electric Light & Power Co. has applied for a franchise. W. W. Walters, Mgr., Garrick Theatre and secretary of the company, is reported to have said that a plant would be built at a cost of several million dollars as soon as the franchise was granted.

VINCENTOWN, N. J.—Private electric plant to be installed.

MIFFLINBURG, PA.—Reported that bids are asked until July 7 for constructing electric light plant. T. M. Getgen, Town Clk.

PHILADELPHIA, PA.—Plans for a power house for F. R. Plumb are being made by J. J. Kennedy, 52 Broadway, New York.

PITTSBURG, PA.—Plans completed for boiler house and power plant for Carnegie Institute.

PETERSBURG, VA.—Reported that Virginia Passenger & Power Co. will build a 1,360-ft. long dam across Appomattox River, west of Ferndale Park. Dam will be 75 ft. wide at bottom, 50 ft. wide at the top and 75 ft. high, and will be built of cement and cobblestones.

WELCH, W. VA.—Stated that Welch Water, Light & Power Co. proposes to double capacity of light plant this summer. D. J. Howell, 605 12th St., N. W., Washington, D. C., is Mgr.

FAYETTEVILLE, N. C.—Pepper & Register, Philadelphia, Pa., have contract for completing plant of Cape Fear & Electric Power Co., at Buckhorn Falls. The General Electric Co., New York, N. Y., will furnish the equipment.

LUMBERTON, N. C.—W. D. Marrow, E. E., Charlotte, N. C., will make plans for $10,000 electric light plant to be installed here.

SPARTANSBURG, S. C.—Ladshaw & Ladshaw, Engrs., are making surveys for proposed water power development of Roanoke Navigation & Water Power Co.

ABBEVILLE, GA.—Electric light franchise granted to Col. J. L. Bankston; plant will be in operation by Dec. 15.

ROME, GA.—City may vote on electric light plant.

WEST PALM BEACH, FLA.—Contract for erection of power house of West Palm Beach Electric Light & Power Co. let to Geo. Haslehurst & Son; contract for equipment let to Florida Electrical Supply Co., Jacksonville, Fla.

LAKE CHARLES, LA.—Gas works may be established.

KNOXVILLE, TENN.—Stated that $100,000 will be spent in improving plant of Knoxville Gas Light Co.

FINDLAY, O.—Logan Gas Co., Greenville, Pa., has asked franchise to furnish city with natural gas.

ALPENA, MICH.—A project for the utilization of water power of Thunder Bay River has been promoted by Geo. P. Smith, Syracuse, N. Y.

BOYNE CITY, MICH.—Electric plant to be put in here, to cost about $20,000. E. A. Stowe, Grand Rapids, Mich., is interested.

DELROY, MICH.—Stated that Detroit Suburban Gas Co., Wm. H. Frost, Mgr., 2065 River St., is seeking estimates for a 150,000 cu. ft. gas holder and additional gas retort benches.

DIXON, ILL.—Stated that the Dixon Power & Lighting Co., F. A. Watson, Pres., will issue about $200,000 of bonds. A fuel gas plant will be erected and a fireproof electric lighting station established. A permanent dam will also be constructed and the present water race widened.

DANVILLE, ILL.—Bids are asked until July 10 for installing arc lamps at Danville Branch, N. H. D. V. S. Major M. J. Barger, Treas.

EDWARDSVILLE, ILL.—$30,000 is on appropriation list for municipal lighting plant.

GALESBURG, ILL.—O. T. Johnson Co. will probably install electric light and heating plant for their new store.

APPLETON, WIS.—Trustees Lawrence University are planning for new heating plant for all the buildings.

WATERFORD, WIS.—Burlington Electric Light & Power Co., Burlington, Wis., will install electric light plant at this place.

AURELIA, IA.—We are informed that it has been voted to grant franchises for lights and water-works. J. N. Mummet is Mayor.

DES MOINES, IA.—The Edison Electric Light Co. is planning to extend the east wing of its Center St. dam at a cost of about $50,000.

WEBSTER CITY, IA.—Kephart Light & Gas Co. proposes to reconstruct its plant.

LITCHFIELD, MINN.—Village electric plant to be improved at cost of $5,000.

CHANUTE, KAN.—City will put in electric light plant. D. M. Kennedy is Mayor.

ALLIANCE, NEB.—H. L. Snyder, Norfolk, Neb., representing the Practical Gas Construction Co., is trying to form a company here for putting in a gas plant.

BADGER, NEB.—Interstate Electric Light & Power Co. will establish 150 HP. plant here to supply Butte, Fairfax and Bonesteel with electricity.

OMAHA, NEB.—W. J. C. Kenyon, Gen. Mgr., Union Stockyards, South Omaha, is said to be interested in a project for constructing a $3,000,000 power plant on the Platte River, near Fremont. About 28,000 HP. will be developed, much of which has been contracted for in Omaha.

YORK, NEB.—J. J. Keefe is said to be considering establishment of electric light plant.

CHEYENNE, WYO.—Permission has been granted to Wheatland Water Supply Co. to lay gas and water mains.

LARAMIE CITY, WYO.—Jay Burns has franchise for gas works in this city.

RED LODGE, MONT.—Carbon Milling Co. proposes to install electric light plant to furnish town with lights.

CASSELTON, N. DAK.—This city has offered for sale its electric light plant. Bruce D. Youells, Cy. Auditor.

SISSETON, N. DAK.—15-year franchise for erecting electric light plant granted to Fowler Electric Co., Morris, Minn.

HUNTINGTON, ARK.—Mansfield Gas Co. has franchise for piping town.

AUSTIN, TEX.—Law goes into effect Aug. 1, creating a board to provide a system of light and power and water for the Capitol and other state institutions; $155,000 is provided for the work.

HOUSTON, TEX.—Stated that the Houston Lighting & Power Co., W. H. Chapman, Gen. Mgr., contemplates expending nearly $200,000 in increasing the capacity of its plant.

WAXAHACHIE, TEX.—Mayor W. J. F. Ross writes us that city has voted against building electric light plant at this time.

TACOMA, WASH.—Puget Sound Electric Railway Co. has asked for electric, heat and power franchise.

RAINIER, ORE.—D. H. Welch has asked franchise for furnishing electric lights.

ROSEBURG, ORE.—Z. C. Corbett has asked for gas franchise.

SALEM, ORE.—Bids are asked until July 6 for lighting capitol building, penitentiary, insane asylum and blind school with arc and incandescents. W. K. Gatens, Clk. Pub. Bldg. Comrs.

WESTON, ORE.—J. W. Young proposes to put in electric power and light plant for this place.

REDDING, CAL.—We are informed that the contract for erecting gas plant at this place for the Northern California Power Co., E. V. B. Johnson, Mgr., has been let to the California Light & Fuel Co., San Francisco, Cal.

CORONA, CAL.—E. P. Cooper has applied for electric light and power plant franchise.

BISBEE, ARIZ.—New electric plant to be installed here. Phelps, Dodge & Co. said to be interested.

ALAMOGORDO, N. MEX.—M. H. Fisher, Des. and Erecting Engr., writes us that bids will probably be received in June and July for the proposed plant of the Tucumcari Water, Ice & Power Co., at Tucumcari, N. Mex. Plant is to consist of one 200 h. p. engine, two 60x16 light pressure tubular boilers, an automatic 100 k. w. three-phase alternator, pumps, pipe, etc.; also 20-ton ice making plant complete.

PAYSON, UTAH.—City proposes to buy engine and new dynamo and make other improvements to electric light plant. Bond issue of $15,000 will be voted on June 23.

SALT LAKE CITY, UTAH.—Columbus Consolidated Mining Co., Arthur E. Snow, Secy., will install 500 HP. power plant in Little Cottonwood Canyon.

LUCKNOW, ONT.—Municipal electric plant to be run in connection with water works considered.

BONDS.—Sandersville, Ga., will receive bids until July 1 for $37,000 electric light and water-work bonds. W. A. Bell, Cy. Clk.——Wellsville, O., votes not to issue $20,000 of bonds for municipal light plant.——Corona, Cal., votes down issue of bonds for electric light and power plant.——Payson, Utah, voted June 23 on $15,000 electric plant bonds.

NEW COMPANIES.—Eastern Connecticut Electric Power Co., Hartford, Conn.; $100,000; F. A. Jacobs, Danielson, Conn.; R. L. Warner, Edwin F. Greene.——Glenville Power & Water Co., Greenwich, Conn.; $10,000,000; Wm. J. Tingue, Nathaniel Wetherell, H. H. Adams.——Scotland Electric Co., Hartford, Conn.; $100,000; John Eccles, Frederick Sayles, Harold Lawson.——Public Service Power Co., Newark, N. J.; $1,125,000; Chas. A. Greene, G. A. Griffin, Joseph Gerrardt.——Towaliga Falls Power Co., High Falls, Ga.; $100,000; Seaton Grantland, W. J. Kincaid, J. M. Brawner.——Citizens' Light, Heat & Power Co., Montgomery, Ala.; $30,000; Alex. Rice, G. L. Ruth, J. Lewis Cobbs.——Watab Rapids Power Co., Sauk Rapids, Minn.; $10,000; Wm. C. Wing, Neenah, Wis.; Herman Berg, W. H. Fletcher.——Fullerton Electric Light Co., Fullerton, Neb.; $20,000; Anson B. Ellsworth, I. I. Bennett, W. P. Hatten.——Sand Point Electric Co., Missoula, Mont.; $25,000; M. R. Rutherford, R. D. Rowland, Thos. C. Marshall.——Spokane Gas Co., Spokane, Wash.; $750,000; Isaac Anderson, G. L. Munn, D. W. Twohy.

BRIDGES

BOSTON, MASS.—Construction of new Cottage Farm bridge will probably be required before franchise is granted Boston Elevated Ry. Co. to operate new trolley line at that location. Cost is estimated at $100,000.

BOSTON, MASS.—Bids are asked until July 2 for steel superstructure of Atlantic Ave. bridge. William Jackson, Cy. Engr.

FALL RIVER, MASS.—Legislative leave granted for bridge over Taunton River, connecting Fall River and Somerset.

FITCHBURG, MASS.—Erection of Morrison st. bridge authorized by State. Wm. C. Elliott is Cy. Engr.

WOONSOCKET, R. I.—We are informed that the following bids were received for extending Elm st. arch bridge, Frank H. Mills, Cy. Engr.: Cendella Bros., Milford, Mass., $1,690; N. E. Shaw, Providence, R. I., $2,335; Thomas Lahey, Boston, Mass., $2,515.

BINGHAMTON, N. Y.—City engineer directed to make plans and specifications for foot bridge between Washington and Water Sts.

NEW YORK, N. Y.—Bids are asked by the Bronx Borough President, until July 1, for constructing bridge over Bronx River and approaches to bridge over New York & Harlem R. R. at E. 233d St. Some of the work required is as follows: Excavation, 3,250 cu. yds.; filling, 22,450 cu. yds.; bearing piles, 4,000 ft.; ashlar masonry, 675 cu. yds.; rubble masonry, 3,215 cu. yds.; concrete, 2,075 cu. yds. Louis F. Haffen, Pres.——$10,000 is available for construction of Grand St. bridge over Newtown Creek. Joseph Cassidy is Borough Pres.

DOVER, N. J.—Morris County Connecting R. R., Geo. E. Jenkins, Engr., has four second-hand bridges which they wish erected on masonry abutments, now being constructed.

PLAINFIELD, N. J.—Contract for iron work for new Girard Ave. bridge was let to Dover Boiler Works for $3,795. Wm. Farrier, New Market, N. J., secured contract for mason work for $2,663.

WESTFIELD, N. J.—Bridge proposed over brook near Washington Park.

ALLENTOWN, PA.—State viewers have recommended erection of $110,000 bridge over Lehigh River at this place. Bridge favored is to be five-span steel structure, 42 ft. wide, on stone or concrete abutments.

McKEESPORT, PA.—The city, Thos. W. White, Cy Engr., will build 300-ft. viaduct over Whites Hollow at Versailles Ave., to carry street and a double track line of Pittsburg, McKeesport & Connellsville Railway. The above company, with other interests, also propose building a street and electric railway viaduct, about 800 ft. long, from the Yaugh River bridge to 5th Ave., near Riverton. Thos. Elliott, Gen. Mgr.; A. E. Hess, Ch. Engr., Connellsville, Pa.

HARRISBURG, PA.—Intercounty bridge at Duncannon under consideration.

READING, PA.—City will vote on $100,000 bond issue for Spring St. bridge.

STROUDSBURG, PA.—State will probably build iron bridge over Brodhead's Creek, between Stroudsburg and East Stroudsburg, at a cost of about $60,000.

BALTIMORE, MD.—Contract for steel work for five steel bridges on tidewater extension Western Maryland R. R. let to Maryland Steel Co.

CUMBERLAND, MD.—Bridge is to be built across Potomac River at this point at a cost of about $10,000. City will pay 3-10 of the cost. D. P. Le Fevre is Cy. Engr.

LYNCHBURG, VA.—Contract for steel bridge over Staunton River at Ward Ferry was let to Brackett Bridge Co., Cincinnati, O. Bridge is to be 14 ft. wide and 150 ft. long, with approaches of steel.

WHEELING, W. VA.—Construction of $60,000 bridge at Market St. has been asked by local traction companies.

SPARTANSBURG, S. C.—County commissioners will let contracts for all steel bridges washed out by recent floods on June 30 in this city. Contracts for other bridges will be let as follows: Bridge at Alec Wingo's, June 27; Motlous Creek bridge, June 27; Sandy Ford bridge, near Buck's Creek Church, June 27; rock piers, Pacolet bridge, June 30; Clinton No. 1 bridge, July 2.

PALATKA, FLA.—County proposes to build bridge here.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

YAZOO, MISS.—Contracts will be let at public outcry July 1 for building following bridges: Over Teshuvah Creek on Road 2; Silver Creek, Carroll and McDill's; rebuild McGraw bridge, Silver Creek; bridge over slough at Sycamore Mound; Dull's Brake, Beat 1.

SHREVEPORT, LA.—We are informed that the following parties offered bids June 18 for building wooden or steel bridges in Caddo Parish, as advertised in Engineering News: Carolina Steel Bridge Co., Converse Bridge Co., Alsbury & Son, Geo. Crafts, Geo. King Bridge Co., M. S. Hasie, Jr., Mr. C. Horton. Contract for Dooley Bayou bridge was let to M. S. Hasie, Jr., Dallas, Tex., for $2,692. Bids for Hale Ferry and Red Bayou bridges were rejected.

MEMPHIS, TENN.—Plans have been completed for proposed Porter St. viaduct over Broadway, to be built by the Union Ry., H. G. Fleming, Pres., and other companies interested. Viaduct is to cost $50,000.

CADIZ, KY.—Contract for iron bridge over Little River let to American Bridge Co., New York, for $2,500.

ALLIANCE, O.—Widening of Union Ave. railroad bridge considered.

CHILLICOTHE, O.—Bids are asked until July 13 for constructing superstructure of bridge at State Mills; also for extending or rebuilding the masonry. John H. Miller, County Auditor.

CLEVELAND, O.—Bids are asked until July 1 for completing Adams Ave. arch over Nine Mile Creek in Nottingham Village. Julius C. Dorn, County Clerk.

DAYTON, O.—Construction of concrete bridge over Miami River at Third St., to replace present wooden structure favored.

EAST LIVERPOOL, O.—Reports from here state that Joseph W. Craig, Sewickley, Pa., is interested in the incorporation of three bridge companies, who propose to erect three bridges over the Ohio River between Pittsburg and Rochester.

TOLEDO, O.—Reported that a private company will build a combination railway and foot passenger toll bridge over the Maumee River.

ANDERSON, IND.—We are informed that bids are asked by the county commissioners until July 7 for construction of bridge over White River at Delaware St. Bridge is to have a 1,216 ft. span with viaduct approach of 10—42-ft. spans and masonry substructure. Contracts for superstructure and substructure let separately. Downey & Wilcox, Engrs., Anderson, Ind.

CRAWFORDSVILLE, IND.—Concrete arch bridge may be built over Dry Branch at Chestnut St.

INDIANAPOLIS, IND.—Contract for three county bridges was let to New Castle Bridge Co., New Castle, Ind., for $3,810.

MADISON, IND.—Bids are asked until July 8 for stone substructure and fills for three steel bridges and for masonry and fills for one stone arch. G. F. Crozier, County Auditor.

ROCKVILLE, IND.—Bids are asked until July 9 for constructing steel bridges of 45-ft. span and 16-ft. roadway. J. H. Kerr, County Comr.

SOUTH BEND, IND.—Bids are asked until July 21 for building bridge over St. Joseph River, at Cedar St., Mukawaka. Bridge is to be of Milan arch type, of three spans, 378 ft. long. John M. Brown, County Auditor.

TERRE HAUTE, IND.—Contract for new bridge over river at this point has been let to the Lafayette Engineering Co., Lafayette, Ind., for $271,200.

SOUTH BEND, IND.—The county commissioners rejected all bids received June 11 for constructing bridge at Cedar St., Mishawaka. The lowest bid received was from the Massillon Bridge Co., at $46,000.

RUSHVILLE, IND.—The contract for a bridge over Blue River, near Knightstown, was let to Indiana Bridge Co. for $7,250.

OTSEGO, MICH.—Contract for bridge over Kalamazoo River let to Illinois Bridge Co., for $8,200.

TEKONSHA, MICH.—Contract for 80-ft. bridge at this place let to Wabash Bridge Co., Wabash, Ind., for $2,600.

DANVILLE, ILL.—City has petitioned county for $50,000 for building bridge over Vermillion at Collett St.

DEER CREEK, ILL.—Contract for 60-ft. iron bridge in Malone let to Illinois Bridge Co., for $1,400.

FLORENCE, ILL.—W. H. Shons secured contract at $1,325 for bridge in this township.

KANKAKEE, ILL.—Contract for iron for two bridges in Pilot township let to Sam. Kershaw for $1,125.

URBANA, ILL.—We are informed that bids will be received at the supervisor's room until June 30 for the superstructure and stone substructure complete for a 60-ft. bridge, and also for a 40-ft. highway bridge. Plans and specifications on file with Ira O. Baker, Engr., Champaign, Ill.

PELICAN, WIS.—Bids are asked until June 27 for building abutments and retaining walls for bridge over Pelican River. Richard Reed, Comptroller.

WATSEKA, ILL.—Bids will be received at the county clerk's office until June 29 for two 200-ft. highway bridge spans; also bids for stone masonry for above structures. Ira O. Baker, Engr., Champaign, Ill.

DES MOINES, IA.—The Rock Island R. R. is said to have had plans made for a new girder bridge to span the Des Moines River here at a cost of $75,000.

SIOUX CITY, IA.—Bids are asked until June 30 for constructing steel concrete bridge over Perry Creek at Fourth and W. Third Sts. I. N. Stone, Chn. St. Com. (Readvertisement.)

DULUTH, MINN.—Bids are asked until July 2 for repairing steel bridge over St. Louis River on Miller trunk road. O. Holden, County Auditor.

DULUTH, MINN.—W. B. Patton, Cy. Engr., has been making plans for proposed new ferry bridge over the Ship Canal.

MINNEAPOLIS, MINN.—Alderman D. C. Bow is advocating a bridge over Minnehaha Creek at 12th St.

ST. PAUL, MINN.—Construction of bridge to connect city with Fort Snelling is discussed.——Plans under way by Bridge Engineer Edmonstone for a new bridge to replace the present wooden structure at Happy Hollow; estimated cost, $12,000.

TOPEKA, KAN.—Special session of the legislature is called for June 24 to provide means for replacing bridges washed out by recent floods. The following counties are affected and will probably buy bridges: Shawnee, John P. Rogers, County Surveyor, Topeka; Douglas, Lloyd Duffee, County Surveyor, Lawrence; Jefferson, E. E. Clark, County Surveyor, Oskaloosa; Leavenworth, J. W. Nelhouse, County Clk., Leavenworth; Wyandotte, J. H. Lasley, County Surveyor, Kansas City, Kan.; Johnson, Ole Hibiner, County Surveyor, Olathe.

WICHITA, KAN.—Contracts for county bridges have been let as follows: 312-ft. pile bridge, Kechi township, C. H. Sawyer, $1,650; iron bridge, Derby, Clinton Bridge Co., $5,500; iron bridge, Attica, Kansas Bridge Co., $1,390; iron bridge, between Kechi and Park, Wichita Bridge & Iron Co., $4,450; iron bridge, Salem, Midland Bridge Co., $1,400.

OMAHA, NEB.—Referring to proposed viaduct over Central Boulevard at 34th St., Mary C. Peak, Secy. Bd. Park Comn., writes us that bids for the work were received May 21, but so much exceeded the estimate that they were rejected. No further action had been taken.

CASTLEWOOD, S. DAK.—Bids are asked until July 10 for constrdducting steel bridge. L. H. Forde, County Auditor.

DEADWOOD, S. DAK.—Bids are asked until July 7 for constructing three steel bridges, 30, 35 and 40 ft. long; also for all bridges required during the ensuing 12 months. E. H. Warren, County Auditor.

CARRINGTON, N. DAK.—Foster and Stutsman counties will construct $3,000 bridge over the James at Kensal.

BIG TIMBER, MONT.—County is asked to construct bridge over Yellowstone River at Grey Cliff at a cost of about $10,000.

HAVRE, MONT.—Contract for bridge over Milk River, near Chinook, let to O. E. Peppard, Missoula, Mont., for $6,474.

BUTLER, MO.—Bids are asked until July 6 for constructing three steel bridges, average span 32 ft., on masonry. R. E. Johnson, Bridge Comr.

LITTLE ROCK, ARK.—Reported that Michael Kelley has bridge contract for first 50 miles of Midland Valley R. R., in Sebastian county.

HALLETTSVILLE, TEX.—Contract for four iron bridges let to E. P. Alsbury & Son for $7,000.

HEMPSTEAD, TEX.—The Houston & Texas Central Ry. Co. will construct 930 ft. steel bridge over Brazos River, near here.

HOUSTON, TEX.—Bids are to be called at once for wooden bridge over White Bayou; estimated cost $2,900. F. L. Dormant is Cy. Engr.

RIPLEY, OKLA.—Contract for steel bridge across the Cimarron River was let to the Missouri Valley Bridge & Iron Co., Leavenworth, Kan., for $8,400.

STILLWATER, OKLA.—Construction of $17,000 bridge near Perkins contemplated.

TULSA, IND. T.—Tulsa Commercial Bridge Co. has been incorporated to build a steel wagon and foot bridge over Arkansas River at this place. The capital stock is $75,000 and Geo. T. Williamson is an incorporator.

DAVENPORT, WASH.—Bids are asked until July 6 for constructing following bridges: Crab Creek at Minnie Falls, 2 span, 40 ft., and masonry abutments; Lord Creek bridge, one span, 36 ft., masonry abutments; Crab Creek, on Sprague Road, three 25-ft. spans (truss) and two 18-ft. approaches. A. S. Brown, County Auditor.

MONTESANO, WASH.—Bids are asked until July 6 for 108-ft. trestle bridge over Hamilton Gulch on Wishkah road. W. D. Campbell, County Auditor.

SPOKANE, WASH.—Contract for O. R. & N. R. R. bridge over Spokane River, near Acadamy of Holy Names, was let to McCreary & Willers, for about $90,000.——For the concrete abutments at the north end of the Monroe St. bridge the following bids were received by the public works board: J. H. Frye, $9,997; August Ilse, $9,889; Deeks & Deeks, $7,700; Peter Costello, $9,600.

DAYTON, ORE.—Contract for trestle bridge here let to C. T. Long & Son for $1,495. Contract for repairing river bridge let to J. B. Tillotson for $3,639.

PORTLAND, ORE.—The proposed bridge at Morrison and East Morrison St., for which $400,000 bond issue was voted is to be a steel truss bridge on concrete and stone foundation. It is to consist of three spans and a draw and is to be 60 ft. wide. W. C. Elliott is Cy. Engr.

OROVILLE, CAL.—Contract for steel bridge near Cherokee let to Clark & Henry, Stockton, Cal., for $3,042.

SAN RAFAEL, CAL.—Bids are asked until July 8 for construction of draw-bridge between Tiburon and Belvedere; reported estimated cost is $6,200. Robert B. Graham, County Clerk.

STOCKTON, CAL.—Bids are asked until July 7 for erecting steel span bridge over Mokelumne River, near Woodbridge. E. D. Graham, County Clk.

UKIAH, CAL.—Bids are asked by clerk county supervising until July 7 for building bridge over Anderson's Creek.

SALMON CITY, IDAHO.—Contract for bridge at this place let to O. E. Pepperd, Missoula, Mont., for about $10,000.

NORTH EASTHOPE, ONT.—Bids are asked until July 4 for superstructure 2 steel highway bridges, span 120 ft.; also for concrete abutments. Angus Smith, C. E., Stratford, Ont.

THAMESVILLE, ONT.—Bids are asked until July 1 for concrete arch on Victoria St., over Cornwall Creek. W. J. Cryderman, Clk.

WATERLOO, ONT.—Ratepayers vote July 3 on $6,000 by-law for new bridges.

BUILDINGS.

(For foreign building operations, see under "Mexico," and "Foreign Contracts and Export News.")

RANGELEY, ME.—Bids are asked until June 27 for erecting superstructure of school building, including heating and plumbing. E. I. Herrick, Arch., Main St.

CAMBRIDGE, MASS.—Bids are asked until June 27 for erecting brick school house on Elm St. H. D. Joll, Arch., 671 Massachusetts Ave. T. F. Tracy, Supt. Pub. Bldgs.

DEDHAM, MASS.—Bids are asked until July 7 for erecting building for the Registries of Deeds. Peabody & Stearns, Archs., 919 State St. Exchange, Boston. Thos. Blanchard, County Comr.

NEW BEDFORD, MASS.—Bids are asked until June 30 for erecting steam fire engine house at Kempton and Reed Sts. C. H. Brownell, Chn.

HARTFORD, CONN.—The sum of $170,000 appropriated for erecting an arsenal and armory.

NORWICH, CONN.—Bids are asked by James Knox Taylor, Supervis. Arch., Treas. Dept., Washington, D. C., until July 6 for erecting post office, except heating apparatus, wiring and conduits.

BUFFALO, N. Y.—Mayor Knight has signed the resolution to purchase a site on Jefferson St., 175 × 200 ft., for new school building.——Fire has destroyed the Buffalo Storage & Carting Co.'s 6-story brick building on Seneca St. Loss, $400,000 to $500,000. F. S. Abel is Secy.

BROOKLYN, N. Y.—The Standish Arms Realty Co. will erect a 12-story granite and brick apartment hotel, 75 × 101 ft., at 169-171 Columbia Heights, at cost of $75,000. F. S. Lowe, Arch., 186 Remsen St. F. W. Hopkins is Pres., Alpine, N. J.

LAURENS, N. Y.—Contract for erecting the new brick and stone armory, at Fairview and Academy Sts., will soon be let. The drill hall will be 90 × 120 ft. Capt. Ferguson is interested.

NEW YORK, N. Y.—A 7-story brick and limestone office building, 41 × 92 ft., will be erected for the Santos Co. at Pine and Front Sts. Cost, $100,000.——E. D. Farrell will erect a 10-story office building, 50 × 100 ft., at 62-4 East 125th St., as soon as the present lease expires. Cost, $250,000.——A 4-story maternity hospital, 100 × 100 ft., will be erected at 327-33 East 60th St. Dr. R. Bellamy is interested. O. C. Rixson, Arch.——H. F. Hornbostel, Arch., will prepare plans for the railroad terminal at the Manhattan end of the Brooklyn Bridge.

NEW YORK, N. Y.—Plans have been filed by A. E. Badt, Arch., 1 Union Square, for 6-story brick flat, 48 × 53 ft., at Madison and Rutgers Sts., for B. Rubenstein, $45,000; by F. C. Browne, Arch., 143 West 125th St., for 9-story brick hotel, 40 × 90 ft., at 34-6 East 32d St., for G. L. Felt, 246 West 106th St., $170,000; by Adam, Meldrum & Anderson Co., for 8-story fireproof store building, 68 × 80 ft., at 219-27 Pearl St., $117,000; by J. H. Morgan, Arch., for 7-story brick offices, 41 × 92 ft., at Pine and Front Sts., for Santos Co., 7 Pine St., $100,000; by Horenburger & Straub, Archs., 122 Bowery, for 6-story brick apartments, 65 × 82 ft., at Washington Park West, for S. Mandel, $75,000; by Comstock & Meek, Archs., 1123 Broadway, for a 6-story brick factory, 49 × 98 ft., at First Ave. and 31st St., for E. B. Meyrowitz, 322 West 80th St., $70,000; by Horenburger & Straub, Archs., for 6-story brick tenement, with stores, 48 × 76 ft., at 94-6 Avenue D, for J. Margovitz, 60 West 115th St., $40,000; by C. F. Kruse, Arch., 103 East 125th St., for 6-story brick factory, 65 × 86 ft., at 141-5 West 17th St., for W. E. Jacobs, 25 East 124th St., $45,000; by Sass & Smallheiser, Archs., 23 Park Row, for 6-story brick tenement with stores, 47 × 87 ft., at 104-6 Sullivan St., for Mishkind & Feinberg, 320 Broadway, $50,000; by G. F. Pelham, Arch., 503 Fifth Ave., for two 6-story brick tenements, 45 × 87 ft., at 118th St., for Lederer & Block, 97 Bleecker St., $92,000; by G. F. Pelham, Arch., for 6-story brick tenement, 56 × 56 ft., at Stanton and Attorney Sts., for C. I. Weinstein, 1531 Madison Ave., $55,000; by J. F. Kirman, Arch., 233 East 126th St., for 9-story brick hotel, 25 × 87 ft., at 12 West 94th St., for Moorehead Realty & Const. Co., 1978 Lexington Ave., $75,000; by E. Outwater, Arch., 510 West 24th St., for 4-story brick dwelling, 40 × 70 ft., at 868-70 Lexington Ave., for M. and J. Davis, 21 West 14th St., $50,000; by Horgan & Slattery, Archs., 1 Madison Ave., for 6-story brick and stone stable, 63 × 95 ft., at 153-7 East 53d St., for J. Naughton's Sons, 154 East 53d St., $75,000; by Bernstein & Bernstein, Archs., 111 Broadway, for 6-story brick tenement, with stores, 38 × 81 ft., at 110-2 St. Mark's Place, for I. Leppman, 75 Elm St., $45,000; by Sass & Smallheiser, Archs., for 6-story brick tenement, 46 × 72 ft., at 60-62 Rutgers St., for Hillman & Golding, 233 Henry St., $45,000; by Hoppin & Koen, Archs., 244 Fifth Ave., for 3-story brick hotel, 23 × 100 ft., at Seventh Ave. and 32d St., for D. Nugent, 18 West 60th St., $50,000; by G. A. O'Rourke, Arch., 35 Nassau St., for 4-story brick tenement, 50 × 62 ft., at 25-7 Broome St., for Weil & Mayer, 35 Nassau St., $60,000; by F. A. Gerber, Arch., 108 Fulton St., for 3-story bakery, stable and lofts, 83 × 124 ft., at 38th St., for the Kick Baking Co., 160 West 38th St., $100,000; by G. F. Pelham, Arch., 503 Fifth Ave., for 6-story brick flat with stores, 40 × 66 ft., at 289-91 East Second St., for D. Zipkin, 68 East 101st St., $55,000; by A. E. Badt, Arch., 7 Union Sq., for two 6-story brick tenements, 35 × 83 ft., at 606-12 East Fifth St., for M. Jacobs, 218 East Sixth St., $70,000; by Buchman & Fox, Archs., 11 East 59th St., for 8-story brick and stone warehouse, 22 × 119 ft., at Broome and Elm Sts., for A. Frenkmann, 183 Hewes St., Brooklyn, $85,000; by W. G. Pigueron, 5 East 52d St., for 11-story brick offices, with store, 46 × 96 ft., at 104-6 East 16th St., $235,000.

NEW YORK, N. Y.—Bids are asked by board of education, Park Ave. and 59th St., until July 6 for alterations, repairs, wiring and stone pavements in various schools. C. B. J. Snyder, Supt.

OSWEGO, N. Y.—Fort Ontario will be rebuilt at cost of about $300,000.

SYRACUSE, N. Y.—Plans have been adopted for the new court house.

UTICA, N. Y.—Bids are asked until July 1 for erecting kitchen building, including plumbing, heating and wiring. G. L. Heins, State Arch., Albany.

ATLANTIC CITY, N. J.—Plans will be prepared for the Inter-State Telephone Co.'s 3-story brick and steel exchange building. Address F. A. Demarest, Trenton, N. J.

JERSEY CITY, N. J.—Plans are being prepared for a 60-ft. extension to Pohlman's Hall, Ogden Ave. and Ferry St. Cost, $60,000.

EASTON, PA.—The Easton National Bank has invited bids for erecting 7-story brick and stone building, 50 × 80 ft., at Bangor and Northampton Sts.; steam and electric light plants to be installed.

GREENSBURG, PA.—Bids have been rejected for erecting the new court house. J. H. Brown, Compt., will again advertise for bids.

HARRISBURG, PA.—The Penn Erecting Co. received contract for erecting all structural steel work for the new Capitol building. George F. Payne & Co. have general contract.——Contract will soon be awarded by A. F. Smith, Arch., Reading, for erecting J. D. Mischler's 3-story brick and stone theatre, 60 × 140 ft. Cost, $80,000.

PITTSBURG, PA.—A permit has been granted for erecting Hyde & Behrman's theatre on Duquesne way. Cost, $100,000.——The G. A. R. Memorial Hall, 106 × 236 ft., will be three stories and cost upward of $600,000. Judge Jas. Macfarlane is interested. T. D. Evans, Arch., Lewis Bldg.

READING, PA.—A site has been secured for the new high school. Cost, $250,000. Address N. Van Reed.

SOUTH SHARON, PA.—Plans have been prepared for a new city hall and fire station.

SCRANTON, PA.—Conrad Schroeder received contract for erecting the 3-story fireproof addition to the government building, 22 × 80 ft., at $78,434.

BALTIMORE, MD.—C. W. Eidlitz, Arch., 1123 Broadway, New York, is preparing plans for a 3-story brick and steel fireproof telephone exchange, 50 × 150 ft., on Wolfe St., for the Chesapeake & Potomac Telephone Co.——John Hiltz & Son, 3 Clay St., received contract for erecting 5-

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

story brick, stone and steel fireproof business building at 119-21 West Baltimore St., for the Sheppard & Enoch Pratt Hospital.

WASHINGTON, D. C.—Bids are asked by Glenn Brown, Arch., 918 F St., for erecting Jas. Beale's 3-story brick and stone residence at Mass. Ave. and R St. Cost, $50,000. —T. F. Schneider, Arch., Bond Bldg., is preparing plans for a 6-story brick, stone and steel fireproof apartment house at New Hampshire Ave. and R St.——Geo. A. Fuller Co. received contract for erecting D. C. Phillips 8-story steel-frame apartment house, 127 x 127 x 74 ft., at M and 18th Sts. and Connecticut Ave., at $400,000.

CHARLOTTESVILLE, VA.—W. A. Sandford, St. Comr., writes us that the old Jewish synagogue is being torn down to make room for the $100,000 government building.

NORFOLK, VA.—E. Tatterson received contract for erecting the Business Men's Association's 4-story brick, stone and steel building, 80 x 86 ft. Cost, $70,000.

RALEIGH, N. C.—The State Capitol will be improved at cost of $300,000.

WILMINGTON, N. C.—Reports state that G. W. Vanderbilt will establish a railway station and build a model village between Hendersonville and Brevard; $1,000,000 will be expended.

WINSTON, N. C.—Bids are asked by James Knox Taylor, Supervising Arch., Treas. Dept., Washington, D.C., until July 14 for erecting post-office building, including plumbing, heating apparatus, wiring and conduits.

CHARLESTON, S. C.—Bids will soon be asked for erecting the new art gallery on Meeting St. Cost, $107,500. F. P. Milburn, Arch., Columbia.

AIKEN, GA.—Plans have been completed for the new tourist hotel in Eustis Park. Cost, $200,000. Warren & Wetmore, Archs., 3 East 33d St.

MACON, GA.—Frank Gunn has let the contract for a new business block, 110 x 189 ft., at Fourth and Poplar Sts. Cost, $50,000.

BIRMINGHAM, ALA.—The Trades Council's brick and stone building, 150 x 100 ft., on Third Ave., will cost about $60,000.——Theo. Booth received contract for erecting the E. E. Forbes Piano Co.'s 3-story pressed brick building on Third Ave., between 19th and 20th Sts.

MONTGOMERY, ALA.—The following bids have been received for constructing the federal building, except heating apparatus: Algernon Blair, $64,790; Congress Construction Co., Chicago, $62,985; Bailey Koerner, Henderson, Ky., $59,620; Reese & Anderson, $53,513; Gude & Walker, $51,500; Miles & Bradt, Atlanta, $50,680.

FARMERSVILLE, LA.—Bids are asked by the police jury of Union Parish until July 13 for erecting a court house. A. J. Bryan & Co., Arch., 1104 Hennen Bldg., New Orleans. H. M. Lee, Clk.

CROWLEY, LA.—We are informed that the Crowley Hotel Co.'s 4-story brick hotel, 120x140 ft., will cost $75,000. Low pressure steam heat, laundry machinery, electric light and two electric elevators will be installed. Contract to let about July 10. C. Lewis Wilson & Co., Archs., Beaumont, Tex.

PORT GIBSON, MISS.—Reports state that bids will soon be asked for erecting new court house and jail. Bryant & Co., Archs., New Orleans, La.

MEMPHIS, TENN.—A building on the site of the old Confederate Hall, on Front St., is proposed, for the Memphis Carnival and Exhibit. Cost, $100,000.——$80,000 will be spent on school buildings.

DANVILLE, KY.—An appropriation will be asked for erecting new government building.

LOUISVILLE, KY.—A site has been provided for the new Carnegie Library at Fourth and York Sts. Cost, $250,000.

CINCINNATI, O.—In connection with the construction of extensive terminal facilities in this city, the Baltimore & Ohio Southwestern R. R. will build freight houses, warehouses, power houses, coaling station, roundhouse and sand and oil houses, expending about $1,000,000 on the entire work. The storehouse will be the principal building, being five stories high, 1,277 ft. in length, divided into six sections, each separated by a fireproof wall, and of stone and steel construction. Two electric elevators of 8,000 lbs. carrying capacity will be installed. D. D. Carothers is Gen. Supt.

CLEVELAND, O.—Bids are asked by the public library board, Wood St., until July 1, for erecting public library building at Willson Ave. and Marquette St. W. R. Watterson, Arch., 131 Euclid Ave. C. D. Williams, Pres.

WEST FARMINGTON, O.—G. B. Bates, Parkman, received contract for erecting brick town hall, 42 x 76 ft., on the site of the old Globe Hotel.

BOONVILLE, IND.—Bids are being received for erecting new court house. Cost, $50,000.

CRAWFORDSVILLE, IND.—E. Clove will soon receive bids for constructing a flat building.

PERRY, IND.—Bids are asked until July 6 for erecting annex to school house. Philip Koch, trustee.

FORT WAYNE, IND.—The Loftus Realty Co. will erect a 6-story brick and stone apartment house. Cost, $200,000. Address S. B. Fleming.

HANOVER, IND.—Plans have been completed by Patton & Miller, Archs., Chicago, Ill., for the Hendricks Library building, 48 x 744 ft. Mottled French brick trimmed with Bedford stone will be used. Address President, Hanover College.

INDIANAPOLIS, IND.—The Knights and Ladies of Honor of Indiana will erect a $100,000 building. J. W. Wartman, Evansville, is Chn. Bldg. Com.——The directors of Indianapolis Art Assoc. have received plans prepared by Vonnegut & Bohn, Archs., Indiana Trust Bldg., and will soon ask for bids.——The Physico-Medical College Assoc. is having plans prepared for a $100,000 building at Alabama and North Sts.; also for a $40,000 hospital building. Bids will soon be asked.

BARRYTON, MICH.—Bids are asked until July 1 for erecting brick or cement veneer public school building. S. S. Wilson, Arch. A. L. Hawk, Dir.

CORUNNA, MICH.—Claire Allen, Arch., Jackson, writes us that bids are asked until July 15 for erecting brick and stone court-house, 87 x 116 ft., including heating and plumbing. Cost, $75,000.

GRAND HAVEN, MICH.—Plans are being prepared for a $75,000 federal building. Mayor Hoyt is interested.

NEWBERRY, MICH.—Bids are asked by board of trustees, Upper Peninsula Hospital for the Insane until July 15 for erecting three buildings, including heating. Charlton, Gilbert & Kuentzil, Archs., Marquette, Mich.

CHICAGO, ILL.—Contract has been let for erecting S. B. Butler's 10-story pressed brick fireproof mercantile building, 105 x 212 ft., on Congress St. Cost, $250,000.——Wm. Stevenson's 3-story brick and stone apartment house, 100 x 120 ft., at Lake Ave. and 48th St., will cost $85,000. Arthur Foster, Arch., 3903 Cottage Grove Ave.——A 3-story store and flat building, 96 x 124 ft., will be erected at Indiana Ave. and 37th St. Cost, $65,000. Fritz Lang, Arch., 700 Milwaukee Ave.——L. M. Mitchell, Arch., 145 La Salle St., has prepared plans for 17 detached 2-story apartment houses, 33 x 125 ft., at 1251-61 North California Ave. and 522-64 Fullerton Ave., for B. F. George. Cost, $119,000.

DE KALB, ILL.—Col. Ellwood has received word that the Taylor corner will be the site of the new post office building.

JOLIET, ILL.—The question of erecting a new jail or a building for the incurable insane is being discussed.

SYCAMORE, ILL.—The new court house will be erected at this place.——A home for aged people will be erected between De Kalb and this place at cost of $150,000. I. L. Ellwood is interested.

SPRINGFIELD, ILL.—The Culver Const. Co. received contract for building the addition to the local post office, at $129,688.

BAYFIELD, WIS.—Bids are asked by the Library Board until July 1 for erecting library building. Henry Wildhagen, Arch., Ashland.

DENISON, IA.—J. L. Spark, St. Joseph, Mo., received contract for erecting the new court house, at $74,740. Red sandstone, white marble and brick will be used.

CENTERVILLE, IA.—Bids are asked by James Knox Taylor, Supervis. Arch., Treas. Dept., Washington, D. C., until July 27, for constructing a post office building, including heating apparatus, electric wiring and conduits. (See advertising columns.)

NORTH BRANCH, MINN.—Bids are asked by the county commissioners until July 13 for erecting a new poorhouse, including heating and plumbing. J. A. Rystrom, Chn. Bldg. Com.

MINNEAPOLIS, MINN.—$100,000 will be spent on erecting new jail. Pneumatic cages will be constructed.

TWO HARBORS, MINN.—J. P. Paulson, County Audtr., writes us the Pauly Jail Building & Mfg. Co. submitted the lowest bid for erecting county jail and Sheriff's residence, at $18,547, as advertised in the Engineering News; three other bids were submitted.

LAWRENCE, KAN.—Bids are asked until July 7 for erecting library building. G. Groenor, Pres.

RAPID CITY, S. D.—Bids are asked by the regents of education until July 14 for constructing annex to main building at the School of Mines. I. W. Goodner, Pres., Depot Hotel, Huron.

BUCHANAN, N. D.—Bids are asked by the Buchanan Congregational Church until July 1 for erecting church. J. A. Buchanan, Clk.

LAWTON, N. D.—Bids are asked until June 29 for erecting brick bank building. W. J. Edwards, Arch., Grand Forks.

WAHPETON, N. D.—Bids are asked by board of trustees of the State Academy of Science, until July 25, for erecting brick building. Schuler Bros., Archs. W. R. Purdon, Secy.

BILLINGS, MONT.—Bids rejected for erecting the court house and jail. New bids will be asked. Columbus sandstone will be used.

FARMINGTON, MO.—Bids are asked by board of managers of State Hospital No. 4 until July 6 for erecting a 2-story Administration Building. H. H. Hohenschild, Arch., Rolla. M. P. Cayee, Secy.

ST. LOUIS, MO.—Reports state that a business block, 4,000 x 250 ft., from Washington Ave. to Plum St., will be erected if the Terminal Assoc. is prevented from putting additional tracks on the Levee. Cost, $15,000,000. Thos. Warren, Warren Commission & Investment Co., is interested.

ST. LOUIS, MO.—Bids are asked until July 8 for constructing the Oklahoma Building at the World's Fair grounds. Joseph Meibergen, Pres. Bd. Comrs., Enid, O. T. F. L. Wenner, Secy., Kingfisher, O. T.

LITTLE ROCK, ARK.—Bids are asked by the State Capitol Commission until August 12 for erecting state capitol building. J. B. McCaleb, Chn. L. Kay, Secy.

DALLAS, TEX.—A 1-story brick barn, 150 x 200 ft., will be erected at Elm and Main Sts. Cost, $50,000. J. P. Clark is interested.

HOUSTON, TEX.—J. T. Taylor received contract for erecting the Stowers Furniture Co.'s 6-story brick business building, 100 x 100, on Main St. Cost, $47,000.——Reports state that the new federal building will be erected on Caroline St.

PALESTINE, TEX.—Plans and specifications have been completed for the Stork opera house. Cost, $60,000.

EAST LAS VEGAS, N. M.—G. P. Money, Secy. Bd. Trade, writes us that the location of the trainmen's home has not been decided.

SEATTLE, WASH.—The Pioneer Gold Mining Co., Nome, will erect office building.

SPOKANE, WASH.—It is stated that the Northern Pacific Ry. Co. will enlarge passenger station on Railroad Ave.——Plans are being prepared for a $250,000 addition to the Gonzaga College.

PORTLAND, ORE.—L. B. Stearns writes us that E. A. Lynds received general contract for erecting 4-story brick store building, 70 x 100 ft. Contracts have not been let for steam heating plant and elevators.

FORT STEVENS, ORE.—Bids are asked until July 11 for repairs to hospital. F. H. Hathaway, C. Q. M.

BERKELEY, CAL.—John G. Howard, Arch., will probably prepare plans for the new library building.

REDLANDS, CAL.—The Santa Fe Ry. Co. contemplates new depot. Matter is now before President Ripley.

RIVERSIDE, CAL.—Burnham & Brisner, Archs., Los Angeles, are preparing plans for white pressed brick business block, 100 x 157 ft., to be erected by Seaton, McClure & Redman.

SAN FRANCISCO, CAL.—J. E. Krafft received contract for erecting Wellman Estate Co.'s 4-story brick store and warehouse at Pacific and Jackson Sts. Cost, $65,000.——The Russ House will be enlarged at cost of $140,000. Chas. Newman, Mgr.

SAN BERNARDINO, CAL.—Bids are asked until July 6 for erecting a dormitory building. T. H. Goff, Arch., 318 E St.

YOUNTVILLE, CAL.—Bids are asked until July 2 for the completion of hospital. J. F. Sheehan, Secy. Veterans' Home of California.

PRESCOTT, ARIZ.—Chas. Wallcutt, C. Q. M., writes us that the following bids have been received for constructing buildings at Whipple Barricks, as advertised in Engineering News: Single buildings: 2 barracks, 2 officers' quarters, Q. M.'s storehouse, stable and guardhouse: Construction, W. O. Morrison, Cooper Bldg., Denver, Colo., $159,260 and $185,000; Fifield & Gallagher, Phoenix, $143,742. Plumbing: R. Dalziel, Jr., Mills Bldg., San Francisco, Cal., $12,636; G. T. Duffey, 1131 Market St., San Francisco, $11,690; Garber Bros., Lawrence, Kan., $11,423. Double buildings: 1 double barracks, 1 double quarters, Q. M.'s storehouse, stable and guardhouse: Construction, W. O. Morrison, $150,180 and $175,000; Fifield & Gallagher, $146,431. Plumbing: R. Dalziel, Jr., $13,165; G. T. Duffey, $12,033; Garber Bros., $12,071. No award has been made.

SALT LAKE CITY, UTAH.—Bids have been submitted for constructing post exchange and gymnasium building, including writing, etc., as advertised in Engineering News, by the Narragansett Machine Co., Providence, R. I., G. W. Atkinson, Colorado Springs, Colo., and the following local contractors: T. G. Allen, John Shea, Salt Lake Electric Supply Co., Carthy & Dumbeck, P. J. Moran, Midgley Bros., Utah Electric & Supply Co., and A. & J. McDonald.

TORONTO, ONT.—The Pavilion in the Allan Gardens will be rebuilt at cost of $60,000. W. A. Littlejohn, Cy. Clk.

KINGSTON, ONT.—The Alwington Springs Hotel Co. will build a 100-room sanitarium on the old Moton distillery property.

NEEPAWA, MAN.—A brick hospital will be erected. J. J. Hamilton, Chn., P. O. Box 87. H. S. Griffith, Arch., Winnipeg.

WINNIPEG, MAN.—Bids are asked until June 27 for erecting fireproof building for the Union Bank. Darling & Pearson, Archs., Imperial Bank Bldg., Toronto, Ont.

WINNIPEG, MAN.—Bids are asked for heating and plumbing the steel block on Portage Ave. Jos. McDiarmid, Arch., 311 Donald St.——St. Mary's Parish will erect a $50,000 school. Address Rev. Father Cahill.——The Oblate Fathers of the city will erect a 3-story brick building on Selkirk Ave. for a Presbytery. Jurkowski & Nowaykowski, Archs.

VICTORIA, B. C.—The Canadian Pacific R. R. has agreed to the plan to erect a tourist hotel here.

BONDS.—Grafton, W. Va., will issue $55,000 for new school houses.——Los Angeles, Cal., may issue over $1,000,000 for convention hall.——$400,000 will be issued by Seattle, Wash., for new school buildings.

WATER SUPPLY AND IRRIGATION.

(For foreign water supply and irrigation, see under "Mexico," and "Foreign Contracts and Export News.")

HOULTON, ME.—Town will erect standpipe.

CLAREMONT, N. H.—Management Monadnock Mills contemplate construction of dam on Sugar River and formation of reservoir of 3,000,000 ft. capacity.

SPRINGFIELD, VT.—Contract has been let for building the dam for gravity water system and the pipe-laying to Crosby & Coolidge, Brattleboro, on commission. The system calls for a storage reservoir of 40,000,000 galls. and a small distributing reservoir. "Ironclad" cement has been bought. The village has bought the pipe from U. S. Pipe & Foundry Co. for July delivery. The main (12-in.) is about 4¾ miles long. F. H. Dewart, C. E., 57 High St., St. Albans, advises us as above.

NANTUCKET, MASS.—Town votes not to build works in Siasconset.

NEEDHAM, MASS.—Bids are asked until July 8 for laying vitrified and cast-iron conduits and for building intake chamber, dam and reservoir basin. Louis E. Hawes, Engr.; Frederick G. Tuttle, Water Comr. (See advertising columns.)

REVERE, MASS.—We are informed that the town is considering acquiring present plant of Revere Water Co. New mains may possibly be laid. J. B. Perkins, Chn. Com.

SOUTH DEERFIELD, MASS.—Bids are reported asked until June 30 for constructing water-works, made up as follows: 1,700 ft. 12-in., 5,030 ft. 10-in., 9,470 ft. 8-in., 300 ft. 6-in., 100 ft. 4-in. cast-iron pipe and specials, 15 hydrants set, and 21 gates all sizes. J. B. Bridges, Chn. Water Comrs.

SPRINGFIELD, MASS.—Special water commission has asked for $7,000 to carry on filtration experiments on the Ludlow water supply.

WAKEFIELD, MASS.—Wakefield Water Co. has offered its plant to town for $230,000. Chas. A. Dean is Chn. Water Co.

WRENHAM, MASS.—Estimate for works being made.

FRANKLIN, MASS.—Franklin Water Co. seeks to increase its bonds from $75,000 to $150,000.

HARTFORD, CONN.—Council committee to confer with water board on advisability of using Salmon Brook water by gravity instead of Connecticut River water by filtration plant as is now proposed.

ALEXANDRIA BAY, N. Y.—Bids are asked until July 8 for constructing water-works and sewers, specifications for which are on file at office Engineering News. F. A. Hinds, 28 Flower Bldg., Watertown, N. Y., Engr.; H. A. Cornwell, Pres. (See advertising columns.)

BUFFALO, N. Y.—Expert opinion on the condition of city water supply is to be secured.

MANNSVILLE, N. Y.—Village is about to construct water-works.

MINEOLA, N. Y.—Contract for water supply for Port Washington Water Supply District let to Nassau County Water Co. Works to be installed will consist of 45 hydrants, 23,000 ft. of mains, etc.

NEW YORK, N. Y.—The aldermen have appropriated $500,000 for new water mains and hydrants in the Bronx.

ROME, N. Y.—City has commenced condemnation proceedings to secure land necessary for gravity water supply.

SCHENECTADY, N. Y.—We are informed that the following contracts for water-works extensions, bids for which were opened June 8, were awarded to the T. A. Gillespie Co., 71 Broadway, New York: 23,000 ft. 36-in. riveted steel water main, $152,780; 140 x 8 x 43 ft. collecting gallery, $25,400; engine house, $14,000. Contract for 90 ft. diameter and 55 ft. high standpipe was let to Chicago Bridge & Iron Co., Chicago, Ill., for $29,950. John H. Amo, Secy. Water Comrs.

SENECA FALLS, N. Y.—Municipal works discussed.

LITTLE FALLS, N. J.—Little Falls Water Co. has contracted with East Jersey Water Supply Co. for filtered water and will lay about seven miles of mains in this place.

PERTH AMBOY, N. J.—Bids are asked until July 6 for unloading, hauling and distributing 1,800 tons 24-in. cast-iron water pipes, special castings, etc., also for excavating and laying said pipes and appurtenances. Joseph G. Burns, Supt. W.-W. (See advertising columns.)

COOPERSBURG, PA.—Bolton G. Coon, Kingston, Pa., at $18,676 and Robert Rathbun, Allentown, Pa., at $18,840, were the low bidders for constructing local water-works.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

ALTOONA, PA.—Completion of 24-in. main to Kittanning Point contemplated; cost would be about $10,000.

HARRISBURG, PA.—Plans and specifications for a municipal filtration plant have been completed. M. B. Cowden is Cy. Engr.

HAZLETON, PA.—Contract for water supply system and for fitting up new boiler for the new Jeanesville Iron Works was let to Frith & Co., Philadelphia, Pa., for about $25,000.

LEBANON, PA.—City has voted adversely to a $150,000 additional pipe line to its water supply dams.

WASHINGTON, D. C.—Bids are asked by the district commissioners until Aug. 8 for furnishing 300 high-pressure fire hydrants. (See advertising columns.)

LYNCHBURG, VA.—Wm. V. Wilson, Jr., Chn. Water Com., writes us that no steps have been taken on plans for securing bids for gravity system. The election submitting the proposition to the people is to be held June 25.

NORFOLK, VA.—Water commissioners recommend laying 30-in. main. H. L. Smith is Supt. W.-W.

SPENCER, W. VA.—Private works possible.

MARTINSBURG, W. VA.—Contracts for water-works have been let as follows: McGowan & Co., Cincinnati, O., equipment for pumping station, $5,331; H. H. Hamman, Martinsburg, three boilers for pumping station, $3,136; Koester & Irwin, Greenville, O., pipe, trench and three spring houses, $19,155.

LEXINGTON, N. C.—W. G. Penry is said to be interested in establishing works here.

MORGANTOWN, N. C.—H. L. Millner has franchise for works; estimated cost is $30,000.

COLUMBIA, S. C.—Col. J. Q. Marshall has made a proposition to furnish city with water supply.

COLUMBUS, GA.—A site for the settling basin pumping station and filtering plant of the Columbus Water-Works Co. has been purchased by Maj. W. S. Greene.

CHATTANOOGA, TENN.—Contract for water and sewerage system at army post at Chicamauga Park let to the T. J. Mooney Co., Nashville, Tenn., for $31,800. Contract for water purification plant let to Cameron Septic Tank Co., Chicago, Ill., for $12,250.

BARBERTON, O.—Experimental wells being sunk for supply for proposed municipal works.

DILLONVILLE, O.—City votes July 2 on $30,000 bond issue for a combined water and light plant. The water system is to consist of 500,000 gallon pump, 175,000 gallon reservoir, 2,310 ft. 4-in., 4,220 ft. 6-in., 4,940 ft., 8-in., and 28 double nozzle hydrants. C. W. Mercer is Village Clk.

MARYSVILLE, O.—Marysville Water & Light Co. has increased its capital by $100,000.

GOSHEN, IND.—Ben C. Bender, Cy. Clk., writes us that the following bids were received June 15 for constructing 30 ft. deep, 40 ft. diameter, well for water-works: H. D. Hallett, Aurora, Ill., $7,750; John J. O'Heroy, Chicago, Ill., $8,370; Moran & Watson, Elkhart, Ind., (awarded contract), $7,256.

BATTLE CREEK, MICH.—Water committee will investigate filter plants as a means for improving local water supply.——Reported that bids are asked until July 1 for 60-ft. steel tower and 60,000-gallon steel or wooden tank. M. H. Storck, Cy. Recorder.

ESSEXVILLE, MICH.—John H. Bloomschield, C. E., is making plans and specifications for works and paving for this place.

FLINT, MICH.—City considers purchase of Flint City Water-Works, and may issue bonds for that purpose.

ANONA, ILL.—Stated that Union County Traction Co. will ask franchise for works and electric lights.

SOUTH MILWAUKEE, WIS.—New pumping station to be erected here and water mains extended 2,000 ft. into lake.

HEDRICK, IA.—Iowa Central R. R. is said to contemplate construction of large reservoir at this point. A 100 ft. wide dam would be built.

LONE TREE, IA.—Mayor D. M. Reggs, writes us that a well is now being drilled. Nothing further will be done until this is finished and tested. Population, 800.

MARSHALLTOWN, IA.—We are informed that no definite action has been taken for proposed city storage reservoir. J. W. Longnecker, Deputy Cy. Clk.

HARLAN, IA.—City mains to be extended.

STORM LAKE, IA.—Prof. A. Marston, Ames, Ia., has advised installation of mechanical filter plant of 500,000 gallons capacity at city works.

RUSSELL, IA.—W. W. Lenker, Williamsburg, Ia., has offered to install works here for $4,478.

FREEPORT, MINN.—Contract for works was let to W. D. Lovell, for $7,825.

SOUTH STILLWATER, MINN.—Water supply to be increased.

ARLINGTON, NEB.—Works discussed.

STUART, NEB.—Bids are asked until July 6 for constructing works, to consist in part of 12 × 28 ft. brick pumping station, 20 HP. gasoline engine, 5½ × 8 in. double-acting pumps, 1,200 ft. 6-in. pipe, Ts, hydrants, valve boxes, etc. F. R. Stearns.

ARMOUR, S. DAK.—Otto Sharon, Cy. Clk., writes us that bond issue has been sold and deal made for water-works.

LAKE PRESTON, S. DAK.—City will have $7,000 works.

LENNOX, S. DAK.—City considering works.

PUKWANA, S. DAK.—City will put in $5,000 works.

SIOUX FALLS, S. DAK.—City will have municipal water-works. C. A. Jewett is Water Comr.

SIOUX FALLS, S. DAK.—Bids are asked until July 11 for constructing water-works distributing pipe system. There will be required about 21½ miles, 4 to 20-in. cast-iron pipe; 1½ miles, 1½-in. galvanized wrought iron pipe; 30 5-in. and 113 4-in. hydrants; 93 gate valves and boxes, and 38 1½-in. valves. Loweth & Wolff, St. Paul, Minn., Engrs.; W. R. Marshall, Secy. (See advertising columns.)

WASHBURN, N. DAK.—E. A. Whitman, Washburn, writes that plans and specifications will be drawn up for a new water-works system.

CHEYENNE, WYO.—Bids are asked until July 9 for constructing about 11,000 ft. 12-in. irrigating conduit. W. S. Scott, Constructing Q. M., U. S. A.

KEMMERER, WYO.—State board has ordered that this place and Diamondville construct modern water systems for storing water.

MALTA, MONT.—Large government irrigation reservoir will probably be constructed here.

CAMERON, MO.—We are informed that $59,000 of bonds was voted June 16 for municipal works. The apparatus will consist of two compound duplex, 35,000 gallon pumps, 60 ft. tower, 20 × 32 ft. tank, reservoir, 130,000,000 gallons capacity, cast-iron pipe, 50 hydrants. Bids will probably be opened in four to six weeks. Hiram Phillips, St. Louis, Mo., Des. Engr. O. C. Young is Mayor.

KANSAS CITY, MO.—City will build 30-in. main across the flow line bridge to Kansas City, Kan.

ST. LOUIS, MO.—Bills are before the House for construction of two more settling basins at the Chain of Rocks, at a cost of $575,000.——James L. Blair has laid plans before Public Improvement Board for furnishing city water supply from Meramec Springs.

SAN ANTONIO, TEX.—Bids are asked until July 15 for sinking artesian well at Fort Ringgold, Tex. Jno. L. Clem, D. Q. M. G., C. Q. M.

SWEETWATER, TEX.—Franchise granted for works.

WACO, TEX.—City voted June 16 on making of new contract with Bell Water Co. Municipal plant may be erected if proposition failed to carry.

FOUNTAIN, COLO.—Residents of El Paso county are urging construction of reservoirs in Valley Fountain Creek for irrigation purposes. Mayor Henry Link is Chn. Com. Proposed reservoir system will cost about $50,000.

DENVER, COLO.—Montezuma Valley Irrigation Co. has purchased 400 acre site for reservoir on Upper Dolons River.

FLORENCE, COLO.—C. F. & I. Co. has secured water rights in Roaring Forks and will bring the water to Pueblo. Company has completed surveys for proposed twin pipe lines between Royal Gorge and the Pueblo Steel Works.

HOTCHKISS, COLO.—It is estimated that works can be put in for $30,000; bonds may be voted for the purpose. Supply to be taken from Leroux Creek and two reservoirs constructed. An 8-in. and 6-in. main will be laid. There will be also 11 fire hydrants.

STERLING, COLO.—Cost of proposed gravity works for this place is estimated at $63,000; matter will be voted on June 29. Contract reported as let to a Mr. Hurd, Pueblo, Colo., for $58,500.

YAMPA, COLO.—Works may be installed.

CHENEY, WASH.—Dr. F. A. Pomeroy is on a committee to investigate cost of independent water plant.

ODESSA, WASH.—Mayor Geo. A. Kennedy writes us that proposed city works are to consist of a well, 16 HP. gasoline engine and 17 hydrants. J. W. Strack, Spokane, Wash., is Des. Engr.

MARYSVILLE, CAL.—City may vote on construction of reservoir and pumping station and sanitary sewer system, to cost about $84,000.

OAKLAND, CAL.—Citizens are considering matter of purchase of works of Contra Costa Water Co., or installation of plant of their own. Desmond Fitzgerald has been engaged as consulting engineer. City engineer will prepare plans for distributing system for municipal works.

OCEANSIDE, CAL.—City will improve its works.

PORTERVILLE, CAL.—Stated that Pioneer Water Co. will construct 640,000 gallon cement reservoir besides making other improvements.

REDLANDS, CAL.—Reported that Bear Valley Irrigation system will be purchased and $200,000 spent for improvements. J. B. Glover, Chn. County Supervisors, is said to be interested.

SACRAMENTO, CAL.—Bids are reported asked until July 6 for furnishing the following cast-iron pipe and special castings: 732 tons 12-in. cast-iron pipe, 100 tons 10-in. cast-iron pipe, 236 tons 8-in. cast-iron pipe, 45 tons 6-in. cast-iron pipe, 21 tons special castings. M. J. Desmond, Cy. Clk.

SAN BERNARDINO, CAL.—City works to be extended and plans for works are to be made by city engineer.

SAN JOSE, CAL.—S. Kuchenbeiser & Son, at $7,680 and Minneapolis Steel & Machinery Co., at $8,738 were low bidders for steel water tower at Agnew's Hospital.——Reported that San Jose Water Co. will build reservoir, near Wrights, in the Santa Cruz mountains.

SANTA ROSA, CAL.—T. J. Davis and A. Wright have offered to furnish city additional water supply of 1,000,000 gallons for $6,000.

WHITTIER, CAL.—Enlargement of city works considered. Robt. B. Way is on committee.

MOOSE JAW, N. W. T.—Works proposed. Wm. Grayson is Town Solicitor.

TORONTO, ONT.—Reported that contract for pumping engine for city water-works was let to Allis-Chalmers Co., Milwaukee, Wis., for $155,000.

BONDS.—Onaway, Mich., votes $18,000 of bonds for completing water-works.——Lake Preston, S. Dak., votes to issue $7,000 of water supply bonds.——Cameron, Mo., votes $59,000 of water-works construction bonds. O. Y. Youngs is Mayor.——Hotchkiss, Colo., votes July 2 on $35,000 bond issue for constructing works.——Summerville, Ga., will receive bids until July 8 for $25,000 water and sewer extension bonds. I. I. Hickman, Treas.——Ione, Ore., will sell shortly $9,000 city bonds. E. J. Keller, Cy. Recdr.——Alcester, S. Dak., has voted on $3,750 water-works construction bonds.——Springfield, Tenn., will issue $25,000 water and electric light plant bonds.——Genesee, Idaho, may issue bonds for water-works.——North Sydney, N. S., will receive bids until June 30 for $45,000 water-works extension bonds. J. N. Armstrong, Town Clk.

NEW COMPANIES.—Pasco Irrigation Co., Seattle, Wash., $3,500,000; James A. Moore, Frank Dabney, H. K. Owens.——Mussel Slough Water Co., San Francisco, Cal., $80,000, Joseph P. Chamberlain, Geo. G. Carr, Geo. W. Towle, Jr.——San Rafael, Cal., Riverside Artesia Water Co., Riverside, Cal., $200,000, C. F. Marcy, G. E. Bittenger, M. J. Daniels.——New York Water Co., Pelham, N. Y.; $1,500,000; Geo. H. Bissell, Lakeville, Conn.; Martin McHale, Arthur Turnbull; consolidates the New York City Water Supply Co., Upper New York City Water Co., and the New York and the Westchester Water Co.——Nueces Valley Irrigation, Carizo Springs, Tex.; $25,000; J. S. Taylor, F. Vandervoort, J. A. Daugherty.——Garratt Mountain Land Co., 102 Railroad Ave., Paterson, N. J.; $100,000; Alexander W. Hughes, Chas. B. Dunn, Chas. H. Reynar.——City Water Co., Scranton, Pa.; $500,000; James Kerr, W. L. Connell, John A. Mears, W. P. Boland.——The Confluence Water Co., Confluence, Pa.; $20,000; W. T. Mountain, W. D. Gilchrist.——N. Y. Water Co., 38 Wall St., New York; $1,500,000; Chas. H. Bissell, Martin McHale, Arthur Turnbull.——Centerville Water-Works Co., Centerville, Ia.; $150,000; H. E. Valentine, P. K. Tyng.——American Water Supply Co., Portland, Me.; $1,000,000; licensed to transact business in Illinois, with state capital of $2,500.——Mt. Penn Suburban Water Co., Mt. Penn, Pa., M. L. Bertolette, M. D. Hunter, L. F. Kraeman.——Mounts Tacoma Water Supply Co., Tacoma, Wash., George Browne, Tacoma; Wm. Colegrove, Orting; supply from Crater Lake on Mt. Rainer.——State Ditch Co., Fort Lupton, Colo.; $5,000; W. T. Burge, M. W. Slate, P. S. Junge.——Arroyo Canal Co., Beaumont, Tex.; $250,000; F. J. Hooks, Kountze; A. H. Hester, Brownsville; J. B. Douchette, Woodville.——Missoula Water & Light Co., Missoula, Mont.; $4,000,000; Joseph Simon, J. M. Gemmin, F. R. Olin.

SEWERAGE.

FAIR HAVEN, MASS.—$12,000 appropriated to extend the Shone system of sewerage in the Pease district.

LOWELL, MASS.—Sewers will be constructed in Middlesex St. and Georgia Ave., at cost of $17,991 and $1,200 respectively.

SUNDERLAND, MASS.—C. L. Godard, Athol, received contract for constructing sewer system. Cost, $6,500.

SOUTHBRIDGE, MASS.—G. M. Bryne, Boston, received contract for constructing sewer system. Cost, $8,000.

WORCESTER, MASS.—The sum of $25,000 will be spent on new filter beds.

WOONSOCKET, R. I.—Frank H. Mills, Cy. Engr., writes us that F. E. Shaw, Providence, and Cenedella Bros., Milford, Mass., submitted bids for constructing about 1,300 ft. 8—10-in. sewer.

HARTFORD, CONN.—Bids will soon be asked for constructing sewers. Probable cost, $122,700.

BUFFALO, N. Y.—The following bids have been received for constructing sewers in Genesee St.: Wm. Franklin, $4,372; Miller & Franklin, $4,770; Dark & Co., $4,750; John Mumm, $4,649; Beaser Bros., $5,100; J. B. Winter, $4,420.

FAIR HAVEN, N. Y.—Golden & Hall, Troy, received contract for constructing sewer system at $33,389.

NEW YORK, N. Y.—Bids are asked by the borough president, City Hall, until June 30, for constructing sewers.

NEW YORK, N. Y.—Bids are asked by the borough president, Municipal Bldg., until July 1, for constructing 3,490 ft. 12—18-in. pipe sewer, 18 receiving basins and 21 manholes. See Streets and Roads.

NEW YORK, N. Y.—For sewer work in connection with the extension of the Riverside Drive from 135th to 145th St., see item under Miscellaneous Contracts.

NIAGARA FALLS, N. Y.—$5,500 appropriated for the Carter-Crume Co. sewer.

ONEIDA, N. Y.—Sewers will be constructed in various streets.

PENN YAN, N. Y.—J. A. Underwood, Pres., writes us that the sewer plans will be voted upon in the course of 20 days. Knight & Hopkins, Engrs., Rome.

SARATOGA SPRINGS, N. Y.—Bids are asked until June 26 for constructing 6—8-in. sewers. H. F. Thomas, Clk. Sewer Commission.

SKANEATELES, N. Y.—A sewer system may be constructed. Cost, $20,000.

WHITESBORO, N. Y.—The following bids have been received for constructing sewer system: Salvatore Pelleterri & Co., Utica, $7,945; John W. Bustin, Syracuse, $7,500; James Swift, Syracuse, $8,000; George Miller & Co., Oneida, $6,950 (contract awarded); Thomas F. Moore, Syracuse, $9,825.

ELIZABETH, N. J.—Ordinances presented providing for sewers in Clark Place, Pennsylvania Ave., South and Palmer Sts.

MILLBURN, N. J.—John Driscol, Orange, received contract for constructing sewer in the Short Hills section at $15,238.——Sewers will be constructed in Walnut, Cedar and Laurel Sts.

NEWARK, N. J.—William J. McCloud & Co. received contract for constructing the South Orange Ave. outlet sewer at $12,537; the same company submitted the lowest bid for sewer in New Jersey Railroad Ave., at $18,017.

NEWARK, N. J.—Bids are asked by board street and water commissioners until July 2 for constructing about 4,000 ft. of brick and concrete sewers, as stated in our advertising columns.

SUMMIT, N. J.—Bids are asked until July 7 for constructing about 7,000 ft. of 12—18-in. pipe sewer. R. J. Muldowney, Cy. Clk. (See advertising columns.)

BLOOMSBURG, PA.—A sewer will be constructed in Magee Ave.

CHESTER, PA.—Extensions to sewers will probably be made.

HARRISBURG, PA.—W. H. Opperman received contract for constructing the Seneca St. sewer, at $10,500.——M. D. Pratt, Bd. of Water Comrs., estimates the cost of water mains and sewers at the East End extension at $20,000.

PHILLIPSBURG, PA.—The Ingersoll Co. will give $5,000 if their plant is connected with the town sewer and a good road built.

WILLIAMSPORT, PA.—Bids are asked by the highway and sewer committee until July 1 for constructing 10-in. pipe sewers, manholes and Y-branches, as stated in our advertising columns. Jas. F. Fisher, Cy. Engr. J. J. Gallraith, Cy. Clk.

BALTIMORE, MD.—Sewer system discussed. C. J. Bonaparte, Chn. Baltimore Reform League, is interested.

WASHINGTON, D. C.—Between 1,200 and 1,500 ft. of 10-ft. sewer will be constructed at cost of $60,000 to $75,000. Col. John Biddle is Engr. Comr.

PARKERSBURG, W. VA.—An 8 to 12-in. sewer will be constructed in Gould Ave.

GRIFFIN, GA.—Doctors urge the construction of sewers.

BIRMINGHAM, ALA.—Julian Kendrick, Ch. Engr., Jefferson Co. Sanitary Commission, writes us that bids are asked until July 7 for constructing 240,000 ft. of 4-ft. brick sewers, with average cut of 8 ft.; cost, $106,000.

JACKSONVILLE, FLA.—Enlargement of sewer system being discussed.

CHICKAMAUGA, TENN.—The T. J. Mooney Co., Nashville, received contract for constructing a water and sewer system at the military post, at $31,800.

MEMPHIS, TENN.—A 27-in. sewer will soon be constructed. Cost, $45,000 to $50,000.

ANSONIA, O.—R. J. Paul, Dayton, submitted the lowest bid for constructing sewer, at $5,011.

BOND HILL, O.—Bids are asked until July 13 for constructing sewers. Earnshaw & Punshon, Engrs., Fifth and Race Sts., Cincinnati. A. J. Kiphart, Clk.

COLUMBUS, O.—Sewers will be constructed.

YOUNGSTOWN, O.—Sewers will be constructed in Wilson and Delaware Aves., and Federal St. P. W. Hubler is Cy. Clk.

WAPAKONETA, O.—W. J. Howell received contract for constructing the Shinner Run and Benton St. sewers with brick.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

SOUTH BEND, IND.—W. F. Evans, M. E., of the Studebaker Bros. Mfg. Co., would like to hear from concerns making sewerage disposal apparatus or plant.

TERRE HAUTE, IND.—Braxton Cox received contract for constructing the So. Eighth St. pipe sewer, at $2,016.

COLDWATER, MICH.—C. W. McKinney, Toledo, received contract for constructing storm sewers, at $6,585.

DETROIT, MICH.—Sewer system discussed. City Engineer Anderson is interested.

EARLVILLE, ILL.—Sewer system will be constructed.

PARIS, ILL.—D. H. Sawyer, Cy. Engr., writes us that the following bids have been received for constructing 10,000 ft. of sanitary sewers: J. Robertson, Terre Haute, Ind., $6,679; J. M. Healy, Chicago, $6,218; W. H. Harris, Terre Haute, $5,465; Thompson & Case, Peoria, $5,180; J. Busher, Paris, $5,047 (contract awarded); P. Simons, Quincy, $6,167.

WHEATON, ILL.—The legal difficulties are now nearly settled, and it is expected that bids for the new separate sewerage and drainage systems will soon be asked for.

MILWAUKEE, WIS.—City Engineer Poetsch recommends the purchase of the Shooting Park grounds, north of the Watertown plank road, as a site for the septic tanks to purify the 30th St. sewer.

OSHKOSH, WIS.—Bids are asked by board of public works until July 2 for constructing sewer for the relief of the Bowen St. and North Park Ave. sewers. M. Coffey, Bd. Pub. Wks.

DES MOINES, IA.—The Huffman drainage district will be established at cost of $6,000.

CEDAR FALLS, IA.—City Engineer Warriner will prepare plans for a storm sewer in State St.

EMMETSBURG, IA.—Bids are asked until July 8 for constructing about 16,170 ft. of 8—20-in. sewer, 49 manholes and 3 flushtanks. A. J. Burt, Cy. Clk.

GRAND RAPIDS, MINN.—Bids are asked until June 29 for constructing 3,100 ft. of sewer on Kindred Ave. E. B. Banks, Cy. Engr.

ST. PAUL, MINN.—Bids are asked by board public works until June 29 for constructing a sewer in Edmund St. R. L. Gorman, Clk.

FARGO, N. D.—Sewer system discussed.

FULTON, MO.—Sewer system will be constructed.

ST. LOUIS, MO.—Frederick Hoffmann & Co. received contract for repairing sewers, at $28,000.

LITTLE ROCK, ARK.—The following bids have been received for constructing three miles of sewer at Pine Bluff: Joseph McCoppin, $30,064; Patterson & Co., Atlanta, $28,830; Black & Laird, Kansas City, $28,532; Nick Peay, $28,106.

AUSTIN, TEX.—Congress Ave. storm sewers will cost $21,217.

HOUSTON, TEX.—City Engineer Dormant has completed the plans and estimates on the sanitary sewer system.

ARDMORE, I. T.—Contract has been let for constructing sewer system. Cost, $7,500.

PORT TOWNSEND, WASH.—Jones & Croten received contract for extending sewer system at Fort Flagler.

CORVALLIS, ORE.—Reports state that three sewers have been ordered constructed.

PENDLETON, ORE.—The Rigby Clove Mfg. Co. received contract for furnishing iron castings for sewer system.

SUMPTER, ORE.—City Engineer Fenner's estimate for sewer system is $15,000.

SALT LAKE CITY, UTAH.—A lateral sewer will be constructed in Second South St.; cost, $2,464. J. O. Nystrom is Cy. Recdr.

WOODSTOCK, ONT.—F. J. Ure, Cy. Engr., writes us that B. Johnston, London, received contract for constructing sewers, septic tank, and filter beds, at $19,000.

BONDS.—Rocky Ford, Colo., is discussing the question of bonds for sewerage purposes.——Brookhaven, Mass., will issue $30,000 for sewer system.——An election will be held by Vancouver, B. C., to vote upon issuing $130,000 for sewers.

GARBAGE DISPOSAL—STREET CLEANING

NEW YORK, N. Y.—The Street Cleaning Department is soon to experiment with a motor truck for hauling garbage.

HARRISBURG, PA.—Disposal of garbage is said to be the burning question here.

CLEVELAND, O.—City appropriates $5,000 for equipment for garbage collection and disposal.——The Board of Health has appointed Fred Rehburg to consider establishment of a municipal garbage plant.

YOUNGSTOWN, O.—City may issue $3,500 of bonds to provide for disposal of garbage and refuse matter. W. T. Gibson is Mayor.

STREETS AND ROADS.

ST. ALBANS, VT.—H. F. Lincoln, Cy. Engr., writes us that about four miles of concrete curbing is being considered.

ATHOL, MASS.—The town will build the state road.

LOWELL, MASS.—Asphalt will be used in paving Central St.

MIDDLEBORO, MASS.—About $12,000 will be spent on roads.

WOBURN, MASS.—The state highway will be extended to Massachusetts Ave.

GREENVILLE, R. I.—$4,000 appropriated for highways and bridges.

PORTSMOUTH, R. I.—The cost of widening and building Sandy Point Ave. road is $7,000. Distance, 4,250 ft. J. B. Cornell is interested.

WARWICK, R. I.—State road will be macadamized a width of 23 ft., from the Cranston line to Natick.

WOONSOCKET, R. I.—Frank H. Mills, Cy. Engr., writes us that the following bids have been received for building brick wall and grading Elbow St.: Cenedella Bros., Milford, Mass., $3,972; Thos. Lahey, Boston, $4,156; J. H. Ledvett, Harrisville, $4,205; J. Marcotte, $4,324.

NORWICH, CONN.—West Thames St. may be macadamized at cost of $3,000. Col. Murphy is interested.

ALBANY, N. Y.—South Pearl St. will be resurfaced with asphalt.

BUFFALO, N. Y.—H. P. Burgard received contract for repaving Grace St., at $11,000.

ELMIRA, N. Y.—The Warner-Quinlan Co., Syracuse, received contract for paving several streets with asphalt.

NEW YORK, N. Y.—Bids are asked by the borough president, City Hall, until June 30, for constructing about 192,350 sq. yds. of asphalt pavement, 152,700 sq. yds. old stone pavement relaid as foundation, furnishing 6,686 cu. yds. concrete, 83,035 ft. curbstone and 567 manhole covers.——Chief Engineer Lewis, Bd. of Estimate and Apportionment, has submitted a proposition to widen 60th St., between Second and Fifth Aves., instead of 59th St.

NEW YORK, N. Y.—Bids are asked by the borough president, Municipal Bldg., until July 1, for grading and paving 37,910 sq. yds. with asphalt, construcing sidewalks, furnish 6,175 cu. yds. concrete, 5,995 ft. new curbstone and resetting 15,170 ft. of old curbstone. See Sewers.

NEW YORK, N. Y.—See item headed "Riverside Drive Extension," under Miscellaneous Contracts, for street paving and sidewalk and path laying in connection with that piece of work.

RENSSELAER, N. Y.—Bids are asked until July 3 for brick or block paving, as stated in our advertising columns. A. J. Hoogkamp, Cy. Clk.

WALDEN, N. Y.—T. H. Allen & Co., Oneida, received contract for paving Main St. with Porter block.

CANONSBURG, PA.—Bids are asked until July 6 for paving, grading and curbing several streets and alleys. O. K. Taylor, Jr., Borough Engr. R. H. Coulter, Pres. Council. Geo. McPeak, Clk. (See advertising columns.)

WASHINGTON, D. C.—Bids are asked until July 3 for laying asphalt block pavements. H. B. F. Macfarland, H. L. West, John Biddle, Comrs. (See advertising columns.)

MACON, GA.—Bids will soon be asked for paving College St. Asphalt favored.

LOUISVILLE, KY.—L. R. Figg and G. W. Goswell received contracts for paving various streets. Total cost, $49,000.

LOUISVILLE, KY.—The Barber Asphalt Co. received contract for paving West Broadway, at $90,000.

PADUCAH, KY.—L. A. Washington, Cy. Engr., writes us that bids will soon be asked for constructing 11,700 sq. yds. brick pavement. Cost, $27,000, including curbing.

CINCINNATI, O.—Bids are asked until July 3 for paving Douglas Alley with brick and macadamizing Delhi Ave. G. F. Holmes, Cy. Clk.

DAYTON, O.—Sidewalks willl be constructed on Hulbert St. C. P. Floyd, Clk. of Council.

TOLEDO, O.—The petition of Providence township for a stone road one mile long has been granted by the county commissioners.

DELPHI, IND.—T. Kirkpatrick, County Surveyor, writes us that Deer Creek township voted June 9 to construct roads. Cost, $50,000.

INDIANAPOLIS, IND.—Bids will soon be asked for opening six new streets.

LAFAYETTE, IND.—The Frey-Parsons Co. received contract from the trustees of the Indiana Soldiers' Home for constructing flint-gravel road, at $13,764.

NEW CASTLE, IND.—Broad St. will be paved with Camden brick.

NEW CASTLE, IND.—C. B. F. Clark, Cy. Engr., writes us that 20,000 sq. yds. will be paved with brick and asphalt. Contracts to be let about July 20. Samples of brick and prices are now being received.

MUNCIE, IND.—Street paving discussed.

HOLLAND, MICH.—A. Prange, Grand Rapids, received contract for paving Eighth St. with Metropolitan brick, at $36,848.

KALAMAZOO, MICH.—Bids are asked until July 6 for paving 25,300 sq. yds., as stated in our advertising columns. H. W. Bush, Cy. Clk.

MARQUETTE, MICH.—Mitchell & Sherman will receive contract for building the Lakeshore Boulevard, at $9,867. Distance, 6,000 ft.

MENOMINEE, MICH.—Bids are asked until July 6 for paving Main St. with brick. F. S. Norcross, Cy. Clk.

CHICAGO, ILL.—The Barber Asphalt Co. received contract for paving La Salle and Sherman Sts. with asphalt, at $11,499 and $14,569 respectively.——42d St. will be paved.

DOWNERS GROVE, ILL.—Engineer Shields' estimate for paving Main St. is $11,032.

KANKAKEE, ILL.—Paving talked of; asphalt favored.

GRIGGSVILLE, ILL.—20,000 ft. of concrete walks will be built.

MONMOUTH, ILL.—Broadine & Dungan received contract for paving about 2,250 ft. with brick on the Galesburg road, at $3,097.

ASHLAND, WIS.—The Barber Asphalt Co. received contract for paving Second St., at $34,000; T. J. McGrath, Green Bay, also received contract for macadamizing various avenues at $12,000.

MILWAUKEE, WIS.—Contract has been let for paving various streets.

OTTUMWA, IA.—The Barber Asphalt Co. received contract for repaving Second St.

ALBERT LEA, MINN.—Broadway will be paved.

DULUTH, MINN.—The West Duluth Commercial Club is discussing the paving of Central Ave.

DULUTH, MINN.—The following bids have been received for paving East Michigan St. with sandstone: J. W. Preston, $9,232; P. McDonnell, $9,495; Alex. Sang, $9,668; Fitzgerald & Norris, $11,259. Engineer's estimate, $8,996.——A hearing will be held July 1 on the assessment for improving 19th Ave. with bituminous macadam; $30,000.

MINNEAPOLIS, MINN.—Block, macadam and sandstone will be used in paving various streets.

ST. PAUL, MINN.—West Seventh St. will be macadamized. City Engineer Rundlett's estimate, $50,000.

OMAHA, NEB.—16th St. may be repaved. Councilman Hoye is interested.

YORK, NEB.—Streets will be paved.

DEADWOOD, S. D.—Main, Lee and Deadwood Sts. will be paved.

KANSAS CITY, MO.—The following contracts have been let: Paving the Paseo, McTernon & Halpin; sidewalk, south side of 16th St., Kansas City Stone Sidewalk Co.; grading block bounded by Locust, Cherry, 26th and 27th Sts., N. H. Comstock.

MACON, MO.—Rutherford St. will be paved.

SAVANNAH, MO.—The streets surrounding the public square will probably be paved with brick.

ST. JOSEPH, MO.—Ordinances have been introduced for paving Michel and Paulin Sts. and Mitchell Ave. with macadam and brick.——The Phoenix Brick and Const. Co. received contract for paving at the St. Joseph Stockyards, at $35,000. Contract embraces 30,000 sq. yds. of pavement.——$7,500 will be spent in grading steep hills.

ST. LOUIS, MO.—The reconstruction of 20th St. is meeting with opposition from property owners.

WARRENSBURG, MO.—Bids are asked until July 6 for paving 16,000 sq. yds. with macadam and 4,000 sq. yds. with brick. S. P. Tyler, Cy. Clk.

DALLAS, TEX.—Junius St. will be macadamized. Mayor Cabell is interested.

HOUSTON, TEX.—Bids are asked until July 20 for constructing brick, asphalt or gravel pavement on Runnels St. D. D. Bryan, Cy. Secy. F. L. Dormant, Cy. Engr.——Liberty Ave. will be repaved. Brick will probably be used. Mayor Holt is interested.

TEXARKANA, TEX.—$64,000 has been appropriated for paving streets.

DENVER, COLO.—About 90,000 ft. of curb will be constructed at cost of $122,136.——J. B. Walker is drawing up a petition for paving the boulevard on Berkeley Hills.

REARDAN, WASH.—The proposed Reardan and Cedar Canyon road discussed.

SEATTLE, WASH.—Cost of grading, curbing and constructing sidewalks on Crockett and other streets is $18,000.

PORTLAND, ORE.—Sixth St. will be repaired.

OAKLAND, CAL.—Bids are asked until June 29 for grading road across San Leandro Creek.

REDDING, CAL.—Reports state that North St. will be macadamized. W. G. Dozier is Clk.

SANTA CRUZ, CAL.—Plans are being prepared for a new mountain highway; total distance is about 18,000 ft.

SAN LUIS OBISPO, CAL.—Reports state that Garden and Morro Sts. will be paved with bituminous rock. G. Robbins is Clk.

WHITTIER, CAL.—It is stated that Pickering and Painter Aves. will be graded and curbed. W. E. Butler is Cy. Clk.

ST. BONIFICE, MAN.—$4,111 will be spent on sidewalks and other improvements. Theo. Bertrang is Secy.

BRADFORD, ONT.—Bids are asked until June 26 for constructing a granolithic sidewalk on Holland St. Robt. Stewart, Town Clk.

HAMILTON, ONT.—Reports state that 26 streets will be macadamized. City Engineer Barrow has submitted a list of streets.

BONDS.—Grand Rapids, Mich., may issue $200,000 for paving various streets.——Bonds will be issued by Mill Valley, Cal., $37,000 of which will be used for roads.——Bids are asked by C. G. Rives, Cy. Compt., Shreveport, La., until June 26, for purchasing $188,000 paving bonds.——An election will be held by Pensacola, Fla., July 2, to decide upon a bond issue. C. M. Jones is Mayor.

MANUFACTURING PLANTS.

(For foreign manufacturing plants, see under "Mexico," and "Foreign Contracts and Export News.")

BRIDGEPORT, CONN.—Aldermen have voted to abate taxes on new manufacturing concerns which locate in this city and erect plants.

BUFFALO, N. Y.—Spencer Kellogg Co. has filed plans for 5-story linseed oil mill on Ganson St., to cost $80,000.

NEW YORK, N. Y.—It is stated that plans of reorganization of the White Mountain Paper Co. are being made, and it is hoped that funds can be secured to complete the company's plant at Portsmouth, N. H. It is said that $6,000,000 would be required to complete the plant as originally projected.

UTICA, N. Y.—Salisbury Iron Co. is seeking a site for erection of 100-ton electrical reduction plant.

CAMDEN, N. J.—Thos. Stephens, Arch., Masonic Temple, is making plans for six brick, slow-burning, 1, 2 and 3-story buildings, for the Camden & Philadelphia Soap Co.

BUTLER, PA.—A 300-ft. addition is to be built to Standard Car Wheel Works and new machinery installed.

PHILADELPHIA, PA.—Contract for brick, 2-story, 50 × 100-ft. galvanizing plant for Geo. McNeaul & Co., let to Wm. R. Dougherty, 1604 Sansom St., for $20,000.——A. R. Swope, Arch., 1634 Margaret St., is making plans for brick, 2-story, 45 × 180-ft. planing mill for Smeadley & Bro.——H. L. Reinhold, Arch., 1004 Chestnut St., is making plans for 6-story, brick, slow-burning, 20 × 90-ft. factory.——Thomas Bennett, Arch., 1012 Walnut St., is making plans for 6-story, brick, slow-burning, 30 × 150-ft. factory building in Frankford.——Contract for 2-story brick mill for the Tacony Crucible Co., let to Geo. C. Gray, 1670 Margaret St.——Cunningham Piano Co., 1105 Chestnut St., is having plans for 6-story, brick, slow-burning, 112 × 200-ft. factory, to cost $100,000.——Fayette R. Plumb, Tacony and James Sts., is having plans made for 2-story brick and steel, 50 × 100-ft. addition to his tool factory.

PHILADELPHIA, PA.—David Townsend, Arch., 1418 S. Penn Sq., is taking bids for a 2-story brick and steel mill for the Frankford Steel Co.——Emil Hartmann, Arch., 514 Walnut St., has asked bids for 5-story, brick, slow-burning, 102 × 74-ft. carpet factory for F. Wermer.

SHARON, PA.—Reported that the Carnegie Co. will add two additional blast furnaces to their South Sharon group.

BALTIMORE, MD.—McIntyre & Henderson have purchased ship plant at Marcus Hook.

WILLIAMSTOWN, MD.—It is understood that W. D. Byron & Son will at once rebuild their tannery, recently destroyed by fire, at a loss of $200,000. Brick buildings will probably be built.

MANCHESTER, VA.—Kentucky Tobacco Produce Co. may locate in this city.

MORGANTOWN, W. VA.—West Virginia Plate Glass Co. are said to contemplate removal of plant to Paden City.

ALBEMARLE, N. C.—R. L. Sibley & Co. will at once commence work of rebuilding, on enlarged scale, machine shops destroyed by fire June 3.

HENDERSON, N. C.—Seaboard Knitting Mills said to have been sold. New machinery will be added and capacity of plant increased.

RALEIGH, N. C.—Virginia-Carolina Chemical Co., L. A. Carr, Durham, N. C., Mgr., seeks location here for fertilizer factory and acid chambers, with a yearly capacity of 25,000 tons.

SHELBY, N. C.—Lauraglenn Cotton Mills have been bought by Jno. F. Schenck, Lawndale, N. C., who will, it is said, make extensive improvements to the plant.

WINSTON SALEM, N. C.—Stated that cotton mill for manufacture of fine damask goods is to be built on Roaring River at once. Ira Hayes, Columbia, S. C., is interested.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

WILMINGTON, N. C.—J. A. Arringdale, Gen. Mgr. Cape Fear Lumber Mills, is said to be interested in the formation of a company to erect paper mills in this place.

GADSDEN, ALA.—We are informed that the Kyle Lumber Co. has let all contracts for buildings, machinery and equipment for proposed sawmill.

LAFAYETTE, GA.—Contract for lumber for addition to plant of Lafayette Cotton Mills Co., has been let to Lookout Planing Co., Chattanooga, Tenn., for about $20,000. The capacity of the plant will be doubled. Machinery has already been ordered.

CHATTANOOGA, TENN.—Standard Manufacturing Co., owned by Moritz Klinger, Atlanta, Ga., will consolidate its three plants in Atlanta and Macon, Ga., and move them to this city.——Wheland Machine Works contemplate erection of foundry building soon.

CLEVELAND, O.—Henry V. Hartz & Co. is preparing to erect factory building on Second Ave., and will install plant that will triple capacity of present works.

COLUMBUS, O.—Columbus Screw & Machine Co. will erect factory building.

LORAIN, O.—Plans completed for ice-making plant of Lorain & Elyria Ice Co., Wm. Schres, Pres. Plant is to have capacity of 50 tons, and is to cost about $80,000.

PORTSMOUTH, O.—Ohio Stove Co. will double capacity of plant.

FORT WAYNE, IND.—Fort Wayne Iron & Steel Co. will erect large plant here. J. T. Evans is interested.

GOSHEN, IND.—Pease Engine & Machine Works may increase capacity of plant.

GREENTOWN, IND.—National Tumbler Works reported burned; loss, $180,000.

RICHLAND, IND.—Minck Brewing Co., Albert Morrel, Pres., may enlarge their plant.

BAY CITY, MICH.—Contracts are to be let in a few days for erecting new veneering factory here. Main building is to be 80 x 400 ft.

DETROIT, MICH.—Packard Motor Co. has been having plans made for new plant to cover area of 400 sq. ft.

VICKSBURG, MICH.—Stated that $400,000 paper mill is to be erected on Briggs Pond by a company of which Fred. E. Lee, Dowagiac, Mich., is Pres.

TERRE HAUTE, IND.—Beggs Distilling Co. will build $400,000 distillery in this city.

MACKINAW CITY, MICH.—North Michigan Turning Works destroyed by fire; loss, $75,000.

FALLS CITY, NEB.—City will have ice plant.

TARKIO, MO.—Local plow factory is to be rebuilt on a much larger scale.

ORANGE, TEX.—Contract for machine shops and roundhouse for Southern Pacific R. R., at Echo, was let to Contractor Murphy, Lakes Charles, La.

OLYMPIA, WASH.—Geo. M. Savage and associates contemplate a vitrified brick plant at Gull Harbor to cost $50,000.——Bonus of $70,000 is asked by promoters cereal food factory who propose to put in $1,000,000 plant here.

SPOKANE, WASH.—Stated that J. H. Leidigh, Kansas City, Mo., will construct $100,000 lumber mill here.

ASTORIA, ORE.—Company to be organized with $200,000 capital to put in Bain-Patton mill. Work is to begin before Sept. 1.

SAN DIEGO, CAL.—La Costa Salt Works Co. may erect large size plant near Oceanside.

SAN FRANCISCO, CAL.—Contract for concrete foundation to flour mill, Globe Grain & Milling Co., let to W. E. Keller, Los Angeles, Cal., for about $9,000.

PRESCOTT, ARIZ.—Arizona Sandstone Co. will erect brick manufacturing plant. Cost of machinery is $24,000.

ORANGEVILLE, ONT.—Town will give site and exempt proposed cement company from taxation for ten years. A. A. Hughson is Town Clk.

STRATFORD, ONT.—American Seeding Co., Springfield, O., may establish large factory here.

WIARTON, ONT.—Town is to vote on by-law to give bonus of $25,000 to a beet sugar company which proposes to erect plant here. W. J. Ferguson is Town Clk.

STOUFFVILLE, ONT.—Bids are asked by Osler Wade, Liquidator, 34 Victoria St., Toronto, Ont., until June 30, for purchase of pork-packing plant of Packenham Pork Packing Co., Ltd.

THORNBURY, ONT.—By-law passed for establishment of gasoline engine and foundry works. E. Rorke is Town Clerk.

MONTREAL, QUE.—Jessops & Sons, Sheffield, England, have completed arrangements for establishing a plant in Canada for the manufacture of fine steel.

WINNIPEG, MAN.—McDonagh & Shea brewery is to be extended; a $60,000 plant will be installed and new buildings erected.

VANCOUVER, B. C.—W. J. Boone, of Spokane, Wash., contemplates establishing a flour mill in this city.

MISCELLANEOUS CONTRACTS.

(For foreign miscellaneous contracts, see under "Mexico," and "Foreign Contracts and Export News.")

PARK.—Winnipeg, Man.—By-law before council to raise $50,000 for an outside park

PARK WORK.—Pekin, Ill.—$30,000 bonds for park purposes are to be issued at once.

SMELTER.—Keller, Wash.—Silver Creek Mining & Milling Co. will erect smelter here.

DRY DOCK.—Brunswick, Ga.—Formation of company to erect dry dock here contemplated.

COAL MINING.—Chattanooga, Tenn.—Montlake Co., will open extensive coal mines in Walderis Ridge.

DAM.—Stewartville, Minn.—City votes $2,000 for building dam across Root River to form an artificial lake.

STAMP MILL.—Prescott, Ariz.—Ten stamp mills will be erected at Buckhorn mine. C. W. Prahm is Supt.

SMELTER.—Spokane, Wash.—Stated that smelter is to be put in near here by Chas. Sweeney and James Hill.

DOCKS.—Pittsburg, Pa.—Reported that present city administration plans to build large docks for river traffic.

TELEPHONE LINE.—Beaumont, Tex.—Beaumont Telephone Co. will build 25 mile toll line to Sour Lake Springs.

WHARF.—Point Richmond, Cal.—W. C. Payton has asked franchise for construction of wharf on Bay of Suisun.

CANAL.—Beaumont, Tex.—A canal company organized here with $250,000 will exploit Hidalgo and Cameron counties.

TUNNEL.—Weiser, Idaho.—Elliott & Burton propose to run 300 or 400 ft. of tunnel in their Cliff group of mines this fall.

AIR COMPRESSOR.—Butte, Mont.—Contract for air compressor for original mine let to Ingersoll, Sargent Drill Co.

SMELTER.—Spokane, Wash.—60-ton smelter is to be installed within 60 days at the Crystal mine. Capt. J. Gray, Supt.

JETTY.—Atlantic City, N. J.—Reported that private parties contemplate construction of jetty to deepen water at the Inlet.

DREDGING PLANT.—Boise, Idaho.—Stated that C. F. Dill, Greenville, S. C., will install dredging plant on his placer property here.

DRAINAGE.—Valley Center, Kan.—Township commissioners of this and Grant and Kechi townships considering means for drainage.

WATER TOWER.—Rochester, N. Y.—City may purchase water tower for fire department at cost of $7,000. Adolph J. Rodenbeck is Mayor.

DAM.—Lyndon, Ill.—E. O. Hills, Morrison, Ill., has been making surveys for a dam across Rock River at this place. It is not to be built this year.

DREDGING.—Vancouver, Wash.—County commissioners may raise $2,500 to commence dredging Columbia River at mouth of the Willamette.

DREDGING.—Norfolk, Va.—Bids are asked by the U. S. Engineer until July 16 for dredging Norfolk Harbor, Va. (See advertising columns.)

TRAMWAY.—Chattanooga, Tenn.—The Montlake Coal Co., H. H. Buquo, is considering building of aerial tramway at the mines at Daisy, Tenn.

DRAINAGE CANAL.—Fergus Falls, Minn.—County commissioners will cal for bids for constructing large drainage ditch in Inman and Henning.

DREDGER.—Salt Lake City, Utah.—Reported that Fred C. Smith, 306 Walker Bldg., will build a dredger boat this season; also electric power plant.

MINING PLANT.—Weaverville, Cal.—California Gold Surety Mining Co., Hugh Hume, Pres., will erect modern plant at mines near Trinity Center.

OIL PIPE LINES.—San Francisco, Cal.—Permission granted the Union Oil Co. of California to lay two oil pipe lines along Illinois and 16th Sts.

TRAINING WALLS.—Jacksonville, Fla.—R. G. Ross, Jacksonville, was low bidder at $164,062 for constructing training walls in St. Johns River.

DAM.—Albany, N. Y.—Bids are asked until July 1 for raising and completing Battle Island dam on Oswego River. Chas. S. Boyd, Supt. Pub. Wks.

SEA WALL.—Annapolis, Md.—P. J. Carlin & Co., Brooklyn, N. Y., at $520,000, was low bidder for constructing sea wall at Naval Academy.

DAM.—Telluride, Colo.—Local quartz mining companies are to construct dam across the valley above Telluride to impound waters of San Miguet River.

SUCTION DREDGE.—Los Angeles, Cal.—Bids are asked until July 24 for suction dredge. Maj. J. H. Willard, U. S. Engrs. (See advertising columns.)

SMELTER.—Salt Lake City, Utah.—Utah Consolidated Mining Co., R. H. Channing, Gen. Mgr., will enlarge smelter at Highland Boy Mines, Bingham.

BOILERS.—McKeesport, Pa.—Boiler batteries 1 and 2 at main pumping station may be repaired at an estimated cost of $5,000. T. H. Verner is Supt. W.-W.

CEMENT.—Charleston, S. C.—Bids are asked until July 21 for 17,000 bbls. American Portland cement. Capt. G. P. Howell, U. S. Engrs. (See advertising columns.)

DITCH.—Storm Lake, Ia.—Supervisors considering construction of 18-mile ditch in townships of Providence, Grant, Lincoln and Scott; estimated cost, $50,000.

FENCE.—New York, N. Y.—Bids are asked by the Park Board, Arsenal Bldg., until July 2 for wrought iron picket and three-rail pipe fences. Wm. R. Willcox, Comr.

ELECTRIC FANS.—Baltimore, Md.—Plans for electric fans to clear the P. R. R. tunnels in this city of smoke and gas have been submitted to builders for estimates.

MODEL VILLAGE.—Asheville, N. C.—Reported that George W. Vanderbilt is to expend $1,000,000 in establishing a model village about 30 miles from this place.

FISH HATCHERY.—Vancouver, B. C.—$10,000 will be appropriated for fish hatchery at Rivers Inlet, and $6,000 will be spent for a fish ladder at mouth Quesnel Lake.

STEAM PLANT.—Grand Rapids, Mich.—Bids are asked until July 22 for steam plant for suction dredge. Lieut-Col. M. B. Adams, U.S. Engrs. (See advertising columns.)

DRY DOCK.—Newport, R. I.—It is reported that the navy department intends to establish a dry dock and naval repair plant near the new government coaling station.

HARBOR IMPROVEMENTS.—Parry Sound, Ont.—Improvements are to be made at Depot Harbor on Georgian Bay. Capt. Roul de B. Cordveau, has been placed in charge of the work.

REMODELING STEAMERS.—Seattle, Wash. — Frank Waterhouse has let a contract for remodeling steamers Tremont and Shawmut to Morgan Bros. Co.; contract involves about $180,000.

SUBWAY.—Memphis, Tenn.—Thomas Bernard, Engr., Southern Ry., Chattanooga, Tenn., has made plans for a subway at Porter St., under the Broadway railway track; estimated cost is $50,000.

BRICK MAKING MACHINERY.—Cold Spring, N. Y.—J. B. & J. M. Cornell Co., of Cold Spring and New York City, want the names and addresses of manufacturers of brick-making machinery.

DIKE.—St. Louis, Mo.—It is proposed here to erect a stone wall 42 ft. high from the bluffs at Alton to a point below East St. Louis, a distance of 30 miles, to do away with all danger from future floods.

BOAT.—Washington, D. C.—War Department has rejected all bids for constructing boat for Sandy Hook service. The appropriation for the work was $55,000, and the bids exceeded this by nearly $10,000.

CONCRETE APRON, ETC.—Houston, Tex.—Bids are asked until July 6 for constructing concrete apron and head wall on piling at outflow of Louisiana St. sewer. F. L. Dormant, Cy. Engr.; D. D. Bryan, Cy. Secy.

DREDGING PLANTS.—Detroit, Mich.—Bids are asked until July 23 for hire of two or three dredging plants for use in lower Lake Huron, St. Clair River and Lake, and upper Detroit River. Maj. W. H. Bixby, U. S. Engrs.

FILLING.—Galveston, Tex.—Engineer Boschke of the sea wall commission has suggested that the county court advertise for bids for filling to be placed back of the sea wall. About 700,000 yds. of filling would be required.

WHARF WORK.—San Francisco, Cal.—J. L. McMahon, at $10,685, was low bidder reconstructing and lengthening Mission St. wharf.——Harbor commissioners will probably replace Fremont St. wharf with cylinder pier wharf.

TELEGRAPH IMPROVEMENTS.—Chattanooga, Tenn., stated that about $40,000 will be spent for improvements of local Western Union Telegraph Co., J. B. Norris, Mgr. New heavy insulated copper wires are to be installed.

DITCH.—Minneapolis, Minn.—Bids are asked until June 30 for the construction of seven drainage ditches, aggregating a total length of 24 miles; excavation about 125,000 cu. yds. Geo. A. Ralph, Engr.; Peter E. Hanson, Secy. State.

NARROW GAGE RAILWAY.—Jackson, Ky.—A. C. Barrow, Engr., Jackson, wishes information regarding the construction of narrow gage railways for lumber and logging purposes; there will be several sharp curves and steep grades.

TELEGRAPH LINES.—Philadelphia, Pa.—Pennsylvania R. R. Co. has appropriated $300,000 for new telegraph lines and will, it is said, virtually install anew telegraph plant on all its lines east of Buffalo and Pittsburg. Chas. M. Schaffer is Supt. Telegraphs.

FIRE-ALARM TELEGRAPH, ETC.—New York, N. Y.—Bids are asked by the Fire Commissioners, 157 East 67th St., until July 2 for supplies for fire alarm telegraph in the various boroughs; also for furnishing 70 fire-alarm boxes, and for the electric installation on new fire boat. Thomas Sturgis, Comr.

OIL PIPE LINE.—Neodesha, Kan.—The Standard Oil Co. is to lay a 56-mile pipe line from Bartlesville, Ind. Ter., to its refinery, at this place. Surveys are also being made for a 21-mile pipe line from Chanute, Kan., to Neodesha. Near this latter place several large oil tanks will be erected. W. F. Gates is Mgr. pipe lines.

CANAL.—Buffalo, N. Y.—Contract for dredging the Buffalo & Susquehanna Canal and slip has been let to the Buffalo Dredging Co. for about $1,000,000. The canal will be 3,900 ft. long, 200 ft. wide and 23 ft. deep. In addition, there is to be a canal slip 800 ft. long, 150 ft. wide and 23 ft. deep. The canal is to be owned jointly by the Buffalo & Susquehanna Iron Co., Buffalo & Susquehanna Ry. Co. and the Pennsylvania Ry. Co.

SEA WALL.—Washington, D. C.—Following bids were received June 17 for constructing sea wall at Naval Academy, Annapolis: P. J. Carlin & Co., Brooklyn, N. Y., Sec. I-A, $62,950; A-B, $171,114; B-C, $68,863, $5,200 to be deducted for omission of granite; E-F, $65,156, $4,900 to be deducted for omission of granite, $10,000 to be deducted conditionally; Latta & Terry, Philadelphia, Pa., Sec. I-A, $45,900; Charles McCaull Co., Philadelphia, Pa., Sec. I-A $52,800; Sec. A-B, $235,500; Sec. B-C, $95,400; Sec. C-D, $152,100; Sec. E-F, $124,000; Snare & Triest Co., New York, N. Y.; Sec. I-A, $48,755; Sec. A-B, $229,000; B-C, $92,600; C-D, $143,000; E-F, $109,600.

MINING WORK.—Salt Lake City, Utah.—Reports from here state that the Electra Mine, near Prescott, Ariz., is to be equipped with hoisting plant; that the Sante Ysabel mine, Stent, Cal., may have installed a steam hoist; the Monte Mining and Milling Co., Placerville, Cal., B. McBeath, Supt., is to put in a five-stamp mill; The Johnny Milling Co., Salt Lake City, Utah, has decided to add ten stamps to the battery of its mill at Stateline. F. D. Clift is Pres.; the Hardanger Gold Mining Co. will install a gasoline or steam hoisting works for its Park Valley mine this summer. R. B. Hamilton, Mgr. of Salt Lake City, Utah; the Montana Mining Co., Salt Lake City, Utah, will probably equip its Ophir mine with an air compressor and drills this season. Patrick Ryan is interested.

RIVERSIDE DRIVE EXTENSION.—New York, N. Y.—Bids are wanted by Jacob A. Cantor, Pres., Borough of Manhattan, City Hall, until July 7, for constructing an extension of Riverside Drive, from the Manhattan Viaduct at 135th St., to 145th St. The estimated cost of this piece of work is $1,300,000, and the principal items of the contract are as follows: 118,000 cu. yds. of earth excavation, 10,500 cu. yds. rock excavation; 416,000 cu. yds. fill; 34,000 cu. yds. concrete on walls and foundations, 2,500 cu. yds. in arches and 400 with expanded metal; 46,000 cu. yds. rubble backing, and 5,000 cu. yds. concrete backing for walls, etc.; 119,200 cu. yds. of various classes of granite; 900 piles over 40 ft. long; 6,000 piles under 40 ft.; 105,000 ft. B. M. timber sheathing; 1,500 cu. ft. bluestone for steps, etc.; 10,000 cu. yds. dry filling; 25,000 cu. yds. rubble masonry in walls; 13,000 ft. curb; 3,600 ft. pipe and chain railing; 30,000 lbs. steel beams; 35,000 sq. yds. Telford macadam; 12,000 sq. yds. cement walks; about 8,000 ft. of various sewers and drains; 79 catchbasins; 4,200 cu. yds. dry rubble-stone masonry for sewer foundations, etc.; 198 tons pipe; 7,300 ft. clay conduit; 29,000 ft. of No. 4 cable; 65 lateral w.-i. pipe connections; together with various appliances and fixtures, seats, lamp shafts and ornamental light standards, comfort houses, and materials of construction. F. Stuart Williamson, 15 Broad St., is the Consult. Engr.

U. S. POSSESSIONS AND CUBA.

SEWERAGE.—Alaska.—The question of a sewerage system for Juneau is being agitated.

WATER SYSTEM.—Manila, P. I.—Surveying for the new water supply of this city is under the charge of Major Case, assisted by Capt. Pitcairn. The new source of supply will be moved up the Mariguina River for about 40 miles. According to the plans of improvement the present pumping station will not be brought into use as the natural force of gravity in the elevation of the source, 50 ft. higher than at present, will be sufficient to bring the water to the reservoir at El Deposito. A new reservoir will be included in the improvement; a large dam will also be necessary.

MEXICO.

ELECTRIC PLANT.—Sayula, Jalisco.—Electric light plant to be installed.

WATER PIPE.—Tacubaya.—The council will have the water mains of the city water-works system replaced with new pipe.

IRRIGATION.—Guadalajara.—The Martin Fonts Co. is preparing to establish a system of irrigation in the Sayula and Zapotlan valleys.

FURNACE.—Durango.—The Durango Iron & Steel Co. will construct a new furnace as soon as plans can be prepared.

POWER CANAL.—Zamora.—Brisbin & Davis have contract for constructing power canal from the Rio Duerro to this place for the Guanajuato electric generating plant. B. T. Davis is in charge.

IRRIGATION.—Morelia.—Guido Sironi and Gabino Oseguera have applied to the state government for authority to establish irrigation systems utilizing the waters of the Acahuato and Caramcuero Rivers.

RAILWAY.—Chihuahua.—The Mexican Central Ry. will construct a line from Callero, this state, to Northern Sonora, ultimately reaching the Cananea mining district. Lewis Kingman is Ch. Engr., City of Mexico.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

BUILDING.—**Monterey.—The Monterey Electric Light** Co. will erect an addition to its building, costing $150,000. The power of the electric plant will be increased also. Work will be started at once. Emil Dystrad is Mgr.

FURNACE.—Tepeyahualco, Puebla.—The Compania de Altos Hornos Mexicanos will establish an additional furnace and engage in the manufacture of steel rails and steel structural work. Angel Zavalza, Pres.; Emilio Segura is Gen. Mgr.

RAILWAY.—Maravatio.—The Michoacan & Pacific R. R. running from Maravatio to Zitacuaro, 56 miles, is to be converted from narrow to standard gage. The Trojos Mineral Co. owns this road, but it is operated by the National R. R. Co. of Mexico.

ROAD.—Monterey.—The Porvenir de Malehuala Co., in which F. M. Belden, of this city, is reported to be interested, has decided to extend the road from Minas Santa Maria de la Paz to the Guggenheim mines, five kilos distant. Work will begin at once under the directions of Supt. Gonzales.

OIL REFINERY.—Tampico.—The Waters-Pierce Oil Co., the Mexico branch of the Standard Oil Co., has obtained a concession from the Government for erecting a refinery here for the extraction of parafine from crude petroleum. The company, under the terms of the concession, is required to invest at least $100,000 in the enterprise, and work on the factory must begin before May 17, 1904.

LIGHT PLANT.—Monterey.—Monterey Electric Light Co. is preparing to erect a large addition to its plant, doubling its capacity. Emil Dysterud, Mgr., says that about $150,000 (Mex.) will be spent in the improvements. Company is negotiating with R. N. Oakman who is establishing a gas plant in Monterey, with the view of consolidating the two concerns. If consolidation is effected about $400,000 (Mex.), will be expended in improvements.

COAL MINING.—Mier, Tamaulipas.—Compania Carbonifera de Cuidad Mier has acquired about 500,000 acres of coal lands near here. A large number of exploring shafts have been sunk and six planket veins of coal have been cut within a depth of 60 ft. A branch of the National R. R. is to be constructed to a point within a few miles of Mier and will probably be extended to this place. The coal field is situated within about 20 miles of the Texas border. Baltazar G. Pena is Gen. Mgr. of the company now operating here.

RAILWAY.—Monterey.—Incorporation papers will soon be filed in Wyoming by the promoters of the Sonora, Chihuahua & Monterey R. R.; cap., $20,000,000. The promoters are Denver, Colo., men, and include former Justice Luther M. Goddard of the Supreme Court, ex-Gov. Jas. B. Orman, and Frank P. Bertschy, head auditor of the Woodmen of the World. Concessions have been secured from the government. The Rio Yaqui International Transportation and Metallurgical Co., recently incorporated in Arizona, with $20,000,000 cap., is an adjunct company.

FOREIGN CONTRACTS—EXPORT NEWS.

SEWERAGE.—New Zealand.—A sewerage system will be built in the city of Dunedin costing $1,000,000.

GRAIN HARBOR.—Russia.—The government will construct a new grain harbor at Odessa at a cost of $3,750,000.

RAILWAY.—Germany.—B. H. Warner, U. S. Consul at Leipsig, reports that the Prussian Government will build a railroad across the Harz Mountains, from Eisleben to Rottleberode via Wippra and Stolberg, distance about 30 miles, and that work will soon begin.

WATER-WORKS.—Spain.—Bids are wanted by the Direccion General de Administracion local, Madrid, until July 6, for the construction of water-works for bringing water from the mountains of Colucillos for the use of the city of Torrelavega, to cost about $52,770.

RAILWAY.—Nicaragua.—J. Deitrich, Gen. Mgr., with 12 engineers, left New Orleans, La., on June 17 for Central America, to open up the northern part of Nicaragua and southern part of Honduras to the American market by laying out and constructing a railway 410 miles long for the United States & Nicaragua Co., and the Grand Central Ry. Co., of Nicaragua.

PUBLIC WORKS.—Hungary.—F. D. Chester, U. S. Consul at Budapest, reports that the Hungarian Minister of Finance has introduced a bill for public works costing $53,299,071, to cover several years. The principal works planned are: Nationalization and extension of Transylvanian railways; building of Baja-Battazek bridge over the Danube, joining the cross country with the Fiume line; building a railroad and bridge across the Danube, connecting Komarom with Ersek-Ujvar, points on two Vienna-Budapest lines; regulation of Bega River from Nagy Becskerek to Temesvar; and building of Budapest Harbor by regulating the branch of the Danube next to Soroksar, on the south side of Budapest. Certain public buildings will also be put up or enlarged, and Fiume will receive new marine and railway facilities.

RAILWAY.—South Africa.—A line of railway is planned from the harbor of Lobito Bay, Portuguese Angola, to a point on the borders of North-Western Rhodesia and the Congo Free State. It will be about 800 miles long. A concession has recently been granted by the Portuguese Government to a subsidiary company styled the Central African Corporation, Ltd., now being organized by the Tanganyika Concessions, Ltd., which company will build the line as an outlet to its mineral deposits situated in the Barotse and Kanga districts of the Congo Free State. Construction will be commenced immediately, and it is said that arrangements have already been made by Sir Douglas Fox and Partners, London, Eng., the engineers to the Tanganyika Concessions, Ltd., with Pauling & Co., Ltd., railway contractors, for the surveys. Bids for the first section will be called shortly; already 1,200 tons of rails have been ordered. The line will be 3-ft. 6-in. gage.

CONTRACT PRICES.

[Where (*) precedes items under Contract Prices the work was advertised in Engineering News.]

*PIER.—Saugatuck, Mich.—The following bids were received by Lieut-Col. M. B. Adams, U. S. Engrs., Grand Rapids, Mich., on June 17 for constructing a pier at this place:

Bids Received at Saugatuck, Mich., June 17, 1903, for the Construction of a Pier.

Items.	Burk, Smith & Nelson, Muskegon, Mich.	Bennett & Schnorbach, Muskegon, Mich.	Robt. Millen & Co., Muskegon, Mich.	A. J. Beauvais & Co., Muskegon, Mich.	Hugo & Tims, Duluth, Minn.	Adolph Green, Green Bay, Wis.	J. M. Allmendinger Benton Harbor, Mich.
Dredging for crib foundation	$0.75	$0.50	$0.95	$0.50	$0.75	$0.75	$0.35
Furnishing material and securing in place:							
Foundation piles	.50	.60	.75	.55	.55	.65	.60
White oak piles	.32	.34	.40	.35	.40	.40	.38
" " timber	50.00	60.00	60.00	50.00	60.00	62.00	42.00
" pine, long-leaf y. pine, or Douglas fir	33.00	32.50	33.00	36.00	40.00	38.00	39.00
Hemlock or Norway pine timber	24.00	23.50	25.00	26.00	35.00	26.00	37.00
Timber planks for sheet piling	40.00	51.00	39.00	46.00	40.00	49.00	43.00
Planking for decking	32.00	31.00	31.00	32.00	40.00	34.00	35.00
Drift bolts	.03	.03	.035	.04	.03	.04	.03
Screw bolts	.03	.04	.035	.04	.04	.05	.045
Tie rods	.03	.04	.035	.04	.04	.04	.045
Carriage bolts	.03	.05	.035	.04	.05	.05	.06
Spikes	.03	.035	.035	.04	.04	.04	.035
Stone	6.90	7.30	8.50	8.00	9.50	8.75	10.75
Total	$82,603	$90,518	$91,766	$92,374	$99,664	$100,801	$101,350

LAYING PIPE.—Brooklyn, N. Y.—The following bids were opened June 11 for furnishing and laying a 36-in. cast-iron water main in Atlantic Ave., between Carlton and Flatbush Aves.:

Bids Received at Brooklyn, N.Y., June 11, 1903, for Furnishing and Laying 36-in. Cast-Iron Water Pipe.

Quantities.		L. Collis, 21 Park Row.	Norton & Dalton, 215 W. 125th St.	Harris & Co., Brooklyn.	N. Y. Continental Jewel Filtration Co.	John J. Cashman, Brooklyn.
48-in. specials	9 tons	$80.00	$150.00	$60.00	$70.00	$60.00
36-in. pipe	500 "	32.00	35.00	31.00	35.00	30.00
36-in. specials	17 "	80.00	80.00	60.00	70.00	60.00
30-in. pipe	12 "	32.00	35.00	31.00	35.00	30.00
30-in. specials	7 "	80.00	80.00	60.00	70.00	60.00
6-in. pipe	1 ton	32.00	35.00	31.00	40.00	30.00
48-in. pipe laid	10 lin. ft.	5.00	10.00	3.00	5.00	7.00
36-in. " "	2,200 "	3.25	4.00	2.55	2.60	2.75
30-in. " "	100 "	3.00	4.00	2.55	2.50	2.25
6-in. " "	30 "	1.00	.50	.50	2.00	.30
Brick work	15 cu. yds.	12.00	15.00	20.00	20.00	10.00
Concrete	2 "	10.00	10.00	10.00	10.00	10.00
30-in. stop cock		425.00	500.00	340.00	350.00	300.00
6-in. stop cock		25.00	25.00	20.00	30.00	15.00
Cast iron	3,000 lbs.	.07	.04	.03	.10	.03
Asphalt	60 sq. yds.	3.50	4.00	4.00	3.00	2.50
Bridge stone	170 "	1.00	1.00	.50	.50	.41
Pavement	1,100 "	.90	1.00	.25	.50	.23
Curb	50 lin. ft.	.20	.15	.10	.50	.20
Extra excavation	100 cu. yds.	.90	1.00	2.00	.70	1.50
Total		$28,916	$33,048	$25,368	$28,260	$24,932

CAST-IRON WATER MAIN.—New York, N. Y.—The following bids were received by the Department of Water Supply, Gas and Electricity, 21 Park Row, on June 18 for supplying and laying a 48-in. c.-i. water force main in Atlantic Ave., East New York Ave. and Eastern Parkway, Brooklyn:

Bids Received at New York, N. Y., June 18, 1903, for Laying 48-in. Cast-Iron Water Main.

Quantities.		N. Y. Continental Jewel Filtration Co.	Norton & Dalton, 215 W. 125th St.	L. Collis, 21 Park Row.	Michael J. Dady, Brooklyn.	Isaac Harris, 435 Flatbush.	John J. Cashman, Brooklyn.
Straight cast-iron pipe	10,300 tons	$31.50	$32.70	$32.50	$30.50	$32.00	$30.00
Special castings	120 "	70.00	65.00	70.00	60.00	60.00	60.00
48-in. pipe, fur. and laid	27,000 lin. ft.	3.00	3.50	4.20	2.93	2.75	3.27
36-in. " " " "	400 " "	3.00	3.00	3.00	2.93	2.75	3.50
30-in. " " " "	60 " "	3.00	3.00	3.00	2.00	2.25	2.00
20-in. " " " "	150 " "	3.00	3.00	2.00	1.50	1.00	1.25
12-in. " " " "	150 " "	3.00	2.00	1.50	1.00	.60	.60
Extra excavation	1,000 cu. yds.	1.00	1.00	1.00	.90	2.00	.50
36-in. stop cocks	8 each	500.00	600.00	650.00	621.00	500.00	400.00
30-in. " "	4 "	300.00	400.00	350.00	373.00	325.00	275.00
20-in. " "	3 "	200.00	125.00	150.00	123.00	120.00	125.00
12-in. " "	7 "	60.00	40.00	50.00	40.00	56.00	50.00
30-in. check valve		600.00	650.00	700.00	681.00	550.00	500.00
48-in. check valve		1,500.00	1,400.00	1,250.00	2,330.00	1,600.00	1,300.00
Macdam pavement	700 sq. yds.	1.00	.50	.50	.90	.50	.90
Block pavement	7,700 " "	.40	.01	.45	.50	.25	.25
Cobble pavement	9,000 " "	.25	.40	.45	.30	.15	.15
Concrete	150 cu. yds.	10.00	10.00	10.00	9.00	10.00	6.00
Brick masonry	300 " "	15.00	10.00	12.00	15.00	15.00	10.00
Lumber, left in trench	10,000 ft., B.M.	30.00	30.00	30.00	23.00	30.00	23.00
30-in. wet connection with 36-in. pipe		1,000.00	800.00	500.00	1,500.00	1,500.00	650.00
Steel for I-beams	10,000 lbs.	.05	.03	.03½	.08	.05	.035
Total		$439,280	$461,272	$482,920	$428,707	$434,270	$422,648

VALVES.—Grand Rapids, Mich.—Bids were received as follows by the board of public works on June 5 for valves for use in the extension of the water system: (1) 6-in.; (2) 8-in.; (3) 10-in.; (4) 12-in.; (5) 16-in.: Ludlow Valve Mfg. Co., (1) $12, (2) $17.95, (3) $26.65, (4) $32.50, (5) $98.75; James R. Clow & Sons, (1) $12, (2) $18.40, (3) $26, (4) $34.75, (5) $102; Dorling Pump & Mfg. Co., (1) $10, (2) $15.75, (3) $22.75, (4) $29.75, (5) $92.50; R. D. Wood & Co., (1) $12.40, (2) $15.75, (3) $22.75, (4) $33.20, (5) $105.

PAVING.—New Orleans, La.—Bids for paving Canal St. were opened as follows by the finance committee on June 8: Union Development Co., $1.69½ per sq. yd., or $325,251 for the entire work; Sicilian Asphalt Co., $2.20; Louisiana Improvement Co., $1.93⅛.

CEMENT.—Los Angeles, Cal.—A contract has been let to the Spreckels Bros. Commercial Co. for supplying the water department with 6,500 barrels of cement at $3.24 per barrel.

PAVING.—Bridgeport, Conn.—The following lowest bids were opened by the council committee on streets on June 12: Edward Tracy, Derby, Mack block, $2.71; quarter brick, $2.39; Syracuse brick, $2.61; Barber Asphalt Paving Co., bituminous macadam, $2.11; Standard Stone Corporation, quarter repressed brick, $2.63; wood block, $3.10; Frank Pidgeon, Johannesburg brick, $2.65; Montello brick, $2.64.

EXCAVATION AND ROAD BUILDING.—West Boylston, Mass.—Following bids were received by Metropolitan Sewer and Water Board on June 10 for excavating soil from Wachusett Reservoir and building a road from Howe to Pleasant St., West Boylston:

Bids Received at West Boylston, Mass., June 10, 1903, for Excavation of Soil and Building Road.

Bidder.	Excavation: Earth, 32,000 cu.yds.	Excavation: Rock, 175 cu.yds.	Slope paving, 200 cu.yds.	Masonry: Rubble: Laid dry, 6 cu.yds.	Masonry: Rubble: In mortr, 90 cu.yds.	Masonry: Split stone; In mortr, 50 cu.yds.	Laying Sewer pipe: 5-in., for side drains, 2,350 lin. ft.	Laying Sewer pipe: 12-in., 380 lin. ft.	Laying Sewer pipe: 15-in., 240 lin. ft.	Laying Sewer pipe: 20-in., 60 lin. ft.	Overhaul, hauled 100' 100,000 cu.yds.	Total.
								For culverts				
Auguste Saucier, South Framingham, Mass. (accepted)	$0.20	$1.75	$2.25	$4.75	$6.50	$14.00	$0.10	$0.15	$0.15	$0.20	$0.00¼	$9,090
Wm. J. McCarthy, Somerville, Mass.	.24½	1.00	2.50	5.00	6.50	12.00	.10	.10	.10	.15	.01	11,036
Newell & Snowling Construction Co., Uxbridge, Mass.	.26	2.00	3.00	3.00	4.50	12.00	.15	.10	.12	.15	.01	11,721
McBride & Co., Brighton, Mass.	.26	1.50	3.00	5.00	7.00	12.00	.15	.20	.20	.20	.01	11,931
T. H. Gill & Co., Somerville, Mass.	.27	1.50	2.00	6.00	8.00	18.00	.15	.10	.10	.20	.00¾	12,135
Rowe & Perini, South Framingham, Mass.	.24½	1.60	2.50	4.00	6.00	16.00	.35	.50	.60	.70	.01	12,183
Meskill Bros. & Leahy, West Boylston, Mass.	.26½	1.75	2.75	7.00	7.80	14.00	.18	.18	.18	.18	.01	12,326
Boylston Construction Co., West Boylston, Mass.	.29	2.00	2.50	5.00	6.00	14.00	.20	.30	.30	.50	.01	13,086
John F. Magee & Co., Taunton, Mass.	.31	3.00	3.00	4.00	5.50	8.50	.10	.15	.20	.25	.00¾	13,094
Cenedella & Bros., Milford, Mass.	.29	1.50	2.75	3.50	7.00	16.00	.20	.25	.30	.40	.01	13,205
Bruno & Milano, Boston	.28	2.00	2.50	6.00	8.00	35.00	.30	.35	.45	.60	.01½	14,798
Fred. T. Ley & Co., Springfield, Mass.	.38	2.87	2.87	2.87	8.25	12.65	.22	.21	.23	.28	.00¾	16,047

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

*BREAKWATER EXTENSION.—New Haven, Conn.—The following bids were received by Maj. Chas. F. Powell, U. S. Engrs., on June 22 for extending the breakwater at New Haven; price per ton for 33,845 tons of stone: John F. Donovan, 1 Madison Ave., New York, $1.33 a ton; Daniel McAvoy, 21 and 24 State St., New York, $1.25; Estate of John Beattie, Leetes Island, Conn., $1.33; E. S. Belden & Sons, Hartford, $1.17.

*MACADAM ROAD.—Freehold, N. J.—Peter Forman, County Engr., Elizabethtown, writes that the following bids were received June 15, 1903, for building the first section of the Manalapan and Freehold turnpike; (1) calls for 15,000 cu. yds. of earth excavation; (2) 7,500 lin. ft. of stone drains, (3) for 23,940 sq. yds. of macdam pavement; contract awarded Charles R. Le Compt:

	1.	2.	3.	Total.
Wm. H. Du Bois, Freehold	$0.20	$0.28	$0.89	$26,407
C. R. Le Compt, Lakewood....	.20	.30	.75	23,205
J. D. Murray, New Brunswick.	.26	.21	.97¼	28,832
J. R. Shanley, Jersey City....	.30	.25	.98	29,890

*PIPE.—Meadville, Pa.—Geo. A. Cullum, Supt. Water-Works, writes that the following bids were received June 16 for (1) pump and boiler house, (2) foundation, (3) for 700 tons of cast-iron water pipe and specials: Palm & Nipples, Meadville, (1) $7,722, (2) $2,899; Constable Bros. & Co., Erie, (1) $9,160; J. K. Dimmick & Co., Erie, (3) $29.15 per ton; U. S. Cast-Iron Pipe & Foundry Co., Pittsburg, (3) $29.40; M. J. Drummond & Co., New York, (3) $29.85; Camden Iron Works, Camden, N. J., (3) $30.50 to $32.70.

CEMENT WALK.—Milwaukee, Wis.—The following sidewalk and sewer construction: City Construction Co., 8,676 ft. at 11 cts. per ft.; Milwaukee Sidewalk Co., 1,972 ft. at 11¼ cts.; 2,560 ft. at 11¼ cts., and 4,800 ft. at 11¾ cts.; Wisconsin Cement Walk Co., 1,965 ft. at 11¾ cts. Sewer in 29th St., C. J. Crilley, at $1.79 per ft.

SEWER.—Wilmington, Del.—The two lowest bidders on the Price Run sewer in the Ninth Ward, for which bids were opened June 6, were the Christiana Construction Co., $108,281, and the Hofman Co., $103,356. Their prices were respectively as follows: Section of 9-ft. 3-in. sewer, $28 per ft. and $25.90; 6-ft. 6-in., $11.25 each; 6-ft., $9.50 and $9.90; 5-ft., $9.50 and $9.90; 4-ft. 9-in., $7.50 and $8.20; 9-in. terra cotta underdrain, 35 cts. and 46 cts.; 6-in. underdrain, 30 cts. and 37 cts.; manhole complete, $90 and $59.

PAVING.—Lorain, O.—Bids were received by the board of public service on May 29 for paving and curbing Third Ave., which ranged from $1.12 for Malvern block to $1.24 for Townsend block and $1.13 for Collingwood block on $1.17½ for Harris paver. The bidders were the Ohio Engineering Co., Elyria; D. Herring & Son, Mansfield; Baldwin Bros & Graham, and W. J. Townsend & Co., Cleveland.

GRADING.—St. Joseph, Mich.—Contract awarded Korf & Hays for grading two miles of road at 17½ cts. per cu. yd.

SIDEWALK.—Buffalo, N. Y.—Following bids received for constructing concrete sidewalk: E. D. Hoffeller, 11 cts. per sq. ft.; extra excavation, 50 cts. per cu. yd.; A. Boulding & Co., $1.12 per sq. yd.; F. W. Kinckenberg, 12½ cts. per sq. ft.; extra excavation, 50 cts. per sq. yd.

STRUCTURAL IRON AND STEEL.—Cleveland, O.—The board of public service opened bids on June 12 for the structural iron and steel, brass railings and fittings for the Kirtland St. pumping station, and T. H. Brooks & Co. submitted the lowest as follows: structural steel work, 4¾ cts. per lb.; cast-iron work, 8¾ cts. per lb.; steel or iron rail work, 13 cts.; brass hand railings and brass fittings, 65 cts.; polish steel stanchions, 12 cts.; glass lenses, $1.20 per sq. ft.; brick work $4 per sq. ft. The Forest City Steel & Iron Co., the Van Dorn Iron Works Co. and the Variety Iron Works Co. also bid.

PAVING.—Quincy, Ill.—F. L. Hancock, Cy. Engr., writes that the contract for paving Park Place has been awarded to Henry Reese at $1.07 per yd. for 5,110 sq. yds. of macadam pavement, and 38 cts. per lin. ft. for Berea stone curb.

BRIDGE ABUTMENTS.—Erie, Pa.—Contract awarded Robert Baumann on June 18 for constructing the concrete abutments for the Buffalo road overhead crossing at $5.60 per cu. yd.

PAVING.—Davenport, Ia.—Following bids were received by the board of public works on June 16 for paving Perry St.: Peoples Construction Co., excavation, 50 cts. per cu. yd; paving, $1.47 per sq. yd.; curbing, 58 cts. per lin. ft. Le Claire St., excavation, 40 cts.; Telford, $1.15; paving, $1.49¼; curbing, 62 cts. McCarthy Stone Co., Perry St., respectively, 68 cts., $1.54, 59 cts.; Le Claire St., 42 cts., $1.15, $1.53, 65 cts.

*DREDGING.—Baltimore Md.—Col. W. A. Jones, U. S. Engrs., received the following bids on June 22 for dredging the Patapsco River: Coastwise Dredging Co., City, 19 cts. per cu. yd.; total, $26,600. Maryland Dredging & Contracting Co., City, 17½ cts; $24,500.

INDUSTRIAL NOTES.

THE ALLEGHENY FORGING CO., Pittsburg, Pa., has removed its offices to the Frick Bldg.

THE PLUNGER ELEVATOR CO. has sold, through its N. Y. office, 156 Fifth Ave., three elevators to the Aetna Fire Insurance Co., of Hartford.

MARVIN BRIGGS, New York, dealer in new and second-hand machinery, has removed his offices to 1910 Whitehall Bldg., Battery Pl., and West St.

THE SULLIVAN MACHINERY CO., of Chicago, has opened an office in the Missouri Trust Bldg., St. Louis, Mo., and Mr. P. F. Jarvis will be in charge.

THE EDDYSTONE FOUNDRY & MACHINE CO. is the new name of the Gruson Iron Works, of Eddystone, Pa., manufacturers of sand rolls, rolling mills, mining machinery, castings, etc.

THE NATIONAL ELECTRIC CO., of Milwaukee, is the new name of the former Christensen Engineering Co., which has been reorganized. The company manufactures air brakes and electrical machinery.

THE PENCOYD WORKS of the American Bridge Co. during the last week produced the largest tonnage in the history of the plant, turning out over 16,600,000 lbs., or about 8,300 tons structural steel and bridge work.

THE NORTH AMERICAN SIGNAL CO., Pittsburg, Pa., has applied for a charter for the manufacture of railroad torpedoes and fuses, or signal torches. The incorporators are: J. V. Snyder, E. H. Harris, Johnson Norris, S. A. Schooley and J. B. Creer, Pres. Pittsburg Filter Mfg. Co.

THE PRESSED STEEL CAR CO., Pittsburg, announces that up to and including May 29, it has made and shipped 100,467 cars, including steel and wooden cars. The company has recently been shipping at the rate of 120 cars a day from the McKees Rocks and Allegheny plants, using in the manufacture of these cars from 45,000 to 50,000 tons of steel a month. This company has removed its New York office to the Blair & Co. Bldg., 24 Broad St.

THE P. H. & F. M. ROOTS CO., New York, and Connersville, Ind., has been awarded the contract for furnishing seven 140,000-lb. smelting blowers for the Cerro de Pasco Mining Co., Cerro de Pasco, Peru. This was placed through the office of Mr. Frank Klepetko, Consult. Engr., 8-10 Bridge St., New York.

McINTYRE & DEGRYSE, of Riverside, Cal., have been formed to take over the business of McIntyre & Muir, builders of cement flume and J. L. Kiler & Co., builders of the automatic irrigating system. This firm own the patents for the Plane system of detachable valves and other patents for irrigation purposes.

THE DEANE STEAM PUMP CO., of Holyoke, Mass., is reported as building nine 15,000,000-gall. pumping engines for the new high-service water system being built in Philadelphia. Each pump will be driven by a 100-HP. gas pump. John Codman is Ch. Engr., Philadelphia Water Board.

MR. IRA E. STEVENS, Plymouth Bldg., Chicago, representing the Robinson Machine Co., has a contract to install a Robinson ventilating fan at the mine of the Colfax (Ill.) Coal Co. This type of fan is said to have a very high efficiency, but it has not yet been much used in the western states.

THE COFFIN VALVE CO., Boston, has been awarded the contract for the Twin Falls Land & Water Co., of Salt Lake, Utah, for the new irrigation plant at Twin Falls, Idaho. It embraces eight sluice gates 5 ft. wide and 10 ft. high to work under a head of 70 ft. The appliances for hoisting these large gates are so constructed that one man can operate with ease.

THE BUFFALO STEAM PUMP CO., whose works are at North Tonawanda, N. Y., has been purchased by Messrs. Wm. F. and Henry W. Wendt, who are also owners of the Buffalo Forge Co. and the Geo. L. Squier Mfg. Co. The North Tonawanda Works of the Steam Pump Co. are to be continued as heretofore and the main offices will be in Buffalo.

THE STANDARD PAINT CO., 100 William St., New York, which, on April 22 celebrated the completion of its new factory at Bound Brook, N. J., are the makers of Ruberoid for roofing purposes. This company was organized in 1886 when it placed on the market an odorless waterproof insulating paper. Mr. R. L. Shinwald is Pres., and Mr. Max Drey is the Vice-Pres.

THE PITTSBURG PIPING & EQUIPMENT CO., Westinghouse Bldg., Pittsburg, has been organized by Geo. H. Danner, Charles R. Rall and J. K. Smith, formerly connected with the Best Mfg. Co. The company has works at 35th and Smallman Sts., and will conduct a general pipe fitting, pipe bending and machine shop business. It will also supply brass and bronze castings for blast furnaces, rolling mills, etc.

THE AMERICAN CREOSOTE WORKS, LTD., New Orleans, La., has about completed a new cylinder 7 ft. diam. 115 ft. long, that will increase its capacity to 2,000,000 ft. B.M. per month, 24-hour treatment. This new cylinder is the heaviest in the U. S., and will work at 250 lbs. pressure, with which it is expected to get far better results in the penetration of the creosote than it has been possible for the old plants to get. This plant does all the creosoted bridge work for the Illinois Central R. R.

THE HARRISON SAFETY BOILER WORKS, Philadelphia, announces a change in its Sales Department, whereby Mr. J. M. Dashiell, who has represented it in New England under the title of the Dashiell Engineering Co., 1103 Paddock Bldg., Boston, is now placed in charge of the Baltimore section. The New England office will be continued at the above address under the title of the Harrison Safety Boiler Works, with Mr. John Hickey as representative.

C. W. HUNT CO., West New Brighton, S. I., N. Y., states that the ship "Roseley," which left N. Y. on June 13 for South African ports, took out what will probably be the first electric locomotive to enter the "Dark Continent." The locomotive, which was manufactured by the C. W. Hunt Co., is shipped to the order of the De Beers Consolidated Mines, Ltd. The locomotive is of the latest storage-battery type, standard throughout, with the exception of the gage of the wheels, which is special, to suit the track now in use at the mines.

E. G. SOLTMANN, 125 E. 42d St., N. Y., states that continuous blue or black prints 4½ ft. wide and of any length are now made from tracings by his sun-print department. This will be convenient for engineers who have long tracings of maps or profiles drawn upon profile or cross-section tracing papers 150 ft. long, or longer, which they do not want folded or creased, because endless prints are produced without creasing or defacing the original. The drawing-material department of this firm, which has also been increased, is located in the same building, where a complete stock of everything is kept that relates to architects' and engineers' supplies.

THE BARR PUMPING ENGINE CO., Philadelphia, reports that it closed contracts during May for the following: City of Brockton, Mass., one 6,000,000-gall. vertical triple expansion flywheel pumping engine; City of Kansas City, Mo., one 25,000,000-gall. vertical triple expansion flywheel pumping engine; Town of Plymouth, Mass., one 2,000,000-gall. horizontal compound condensing direct-acting pumping engine, and on May 21 it concluded a contract with the Town of Newton, Mass., to furnish them with a 6,000,000-gall. vertical cross-compound pumping engine, to replace a horizontal flywheel engine built by the Blake Steam Pump Co.

THE SAFETY CAR HEATING & LIGHTING CO., New York, at a meeting of the board of directors, held June 10, elected the following officers for the ensuing year: Robt. Andrews, Pres.; R. M. Dixon, Vice-Pres.; D. W. Pye, Second Vice-Pres.; C. H. Wardwell, Secy. and Treas.; J. P. Lawton, Asst. Secy. and Treas. Further facilities for the supply of Pintsch gas are being provided for by the erection of new manufacturing plants at Philadelphia, Harrisburg, Altoona, Columbus and the capacities of many existing plants are being increased, notably Jersey City, Pittsburg, Kansas City, Washington, Atlanta, St. Louis and Mott Haven, at the four latter-named points the old works being abandoned and entirely new works being constructed.

LATHBURY & SPACKMAN, INC., Engrs., Philadelphia, Pa., report that they have the contract for the design and erection of the three plants to be built by the Alma Cement Co., one of 1,500 bbls. capacity which will be completed this fall, is located at Wellston, O. The other two will be started towards the time of completion of No. 1 plant, and will be erected at Oreton, O., each to have a capacity of 3,000 bbls. per day. They have just completed and turned over as a going concern the new rotary plant of the Almendares Portland Cement Co., of Havana, which they designed and built in Cuba, at a point midway between Havana and Mariano on the Almendares River. The raw materials used are a high-grade limestone and clay. They installed the rotary system operating by the dry process. Two kilns are already in operation and two more will later on be installed. This company has a franchise for 18 years.

THE PRESSED STEEL CAR CO., Pittsburg, is building 1,000 flat bottom gondola cars with twin hoppers, for the Chesapeake & Ohio Ry. Co. They are to be equipped with C. & O. standard arch bar trucks, pressed steel bolsters and brake beams, manufactured by the Pressed Steel Car Co., miner draft gear on 800 of the cars and Sterlingworth draft gear on 200, Chicago frictionless side bearings and Westinghouse air brakes. The Westinghouse Electric & Mfg. Co. has ordered 10 flat cars, these cars to be equipped with structural steel underframing and to have a carrying capacity of 135,000 lbs. The company has received an order from the South Fork Coal Mining Co. for 150 pressed steel self-clearing hopper cars, of 100,000 lbs. capacity, to be constructed at the Allegheny works.

THE UNITED STATES WOOD PRESERVING CO., 29 Broadway, New York, has received recent orders for paving with its creo-resinate wood block, 10,000 sq. yds. of paving on several important thoroughfares in Brooklyn, as well as 2,000 yds. additional for a separate contract in the same city; also paving five bridges for the city of Baltimore as well as the Metropolitan Ave. Bridge over Newtown Creek, Brooklyn, the new Mattapan Bridge in Boston, and the Elm St. Bridge in Waltham, Mass. The company has also secured contracts for paving streets in Jamestown, N. Y., and Hartford, Conn., as well as bridges in Lowell, Mass., Rome, N. Y., and Utica, N. Y. The new ferry boats which the Erie R. R. is now building will have their driveways paved with creo-resinate wood block.

THE PHILADELPHIA PNEUMATIC TOOL CO., Philadelphia, has employed Mr. J. F. Ahern, formerly with the Scully Steel & Iron Co., to assist Mr. A. G. Hollingshead, Western Sales Manager. The company has also appointed Mr. H. B. Griner, late Asst. Mgr. Chicago Pneumatic Tool Co., to a position in the main office. This company reports orders for chipping hammers, riveters and drills from the Craig Shipbuilding Co., Toledo; Willamette Iron & Steel Co., Portland, Ore.; Kewanee Boiler Works, United Gas Improvement Co.; J. D. Connell Iron Works, New Orleans; Chandler & Taylor Co.; Allis-Chalmers Co.; Tenn. Coal, Iron & Ry. Co.; Great Northern Ry. Co.; Lake Erie & Western R. R.; Lake Shore & Mich. So. Ry.; Ill. Steel Co.; Cambria Steel Co.; Lorain Steel Co.; Baldwin Locomotive Works; Am. Car & Foundry Co.; Am. Bridge Co.; International Harvester Co.; Kilbourne & Jacobs Mfg. Co.; the Bucyrus Co.; C. & G. Cooper Co.; Camden Iron Works, Detroit Shipbuilding Co., New York, and Mare Island Navy Yard. Foreign shipments have been made to London, Paris, Brussels, Berlin, Copenhagen, Milan, Buenos Aires and Brisbane.

PAWLING & HARNISCHFEGER, crane and hoist builders, Milwaukee, Wis., state that in spite of the labor troubles the many new and modern shops planned by railroads have resulted in a large volume of estimates for crane equipment; many of these contracts will be closed within a few days. The steel and iron plants still continue the heaviest buyers, though the demand for cranes is broadening. The old Nordberg shops, leased and equipped by Pawling & Harnischfeger to replace their erection shop burned April 15, have placed them in as good shape to build cranes as prevailed before the fire. Among the orders booked recently are: Am. Stone Co., Brooklyn, 2 cranes; Milwaukee (Wis.) Bridge Co.; Louisville (Ky.) Ry. Co.; La. Purchase Exposition, St. Louis; Ingersoll-Sergeant Drill Co., Easton, Pa., 2 cranes; Milton Mfg. Co., Milton, Pa.; Vilter Mfg. Co., Milwaukee; Am. Road Machine Co., Kennett Square, Pa.; Stilwell-Bierce & Smith-Vaile Co., Dayton, O., 2 cranes; Mahoning Foundry & Machine Co., Youngstown, O.; N. Y. Shipbuilding Co., Camden, N. J.; McConway & Torley Co., Pittsburg; Sterrit-Thomas Fdy. Co., Pittsburg; Standard Oil Co., Atlas Works, Buffalo; Penn. Engineering Works, New Castle; Met. St. Ry. Co., Kansas City, 2 cranes; Jefferson & Clearfield Coal & Iron Co., Ernest, Pa.; International Harvester Co., Hamilton, Ont.; Gould Coupler Co., Depew, N. Y., 3 cranes; Helena (Mont.) Light & Traction Co.; Am. Sheet Steel Co., Pittsburg, 2 cranes (1 special); Allis-Chalmers Co., Milwaukee, 2 cranes; Howard Iron Works, Buffalo; Am. Bridge Co., Ambridge Works, Economy, Pa.; La-Belle Iron Works, Steubenville, O.; Bradley Mfg. Co., Pittsburg; N. Y. Edison Co.

THE ALLIS-CHALMERS CO., Milwaukee, state that this is a partial list of engine sales for May: No. Western Elevated Ry., Chicago, 34 and 70 × 60 heavy duty, horizontal cross compound direct coupled Reynolds Corliss engine; Takata & Co., N. Y., 15 × 36 heavy duty, horizontal direct coupled Reynolds Corliss engine; Tintic Mining & Developing Co., Salt Lake, 12 × 30 heavy duty Reynolds Corliss engine; Geo. M. Moulton & Co., Chicago, Reynolds heater; Madison Cotton Oil Co., Vicksburg, 18 × 42 heavy duty Reynolds Corliss engine; Delaware & Hudson Co., Scranton, two 16 × 36 girder frame Reynolds Corliss engines; Munising (Mich.) Paper Co., two 20 and 40 × 42 heavy duty, cross compound direct coupled Reynolds Corliss engines; No. C. Cotton Oil Co., Charlotte, 20 × 42 girder frame Reynolds Corliss engine; Ill. Steel Co., Chicago, two 24 and 60 × 48 duplex, combined vertical and horizontal, direct coupled Reynolds Corliss engines; East Rockford (Ill.) Mantel Co., 22 × 48 girder frame Reynolds Corliss engine; C. E. Pride, Appleton, Wis., two 14 × 36 and one 16 × 36 heavy duty Reynolds Corliss engines, 14 and 28 × 36 tandem compound Reynolds Corliss engine; Cananea Consolidated Copper Co., N. Y., 16 and 30 × 36 tandem compound heavy duty, Reynolds Corliss engine; Gluck Mills, Anderson, S. C., 18 and 38 × 48 heavy duty, cross compound Reynolds Corliss engine; Martin-Barriss Co., Cleveland, 20 × 42 heavy duty Reynolds Corliss engine; St. Louis Exposition, 44 and 94 × 60 combined vertical and horizontal direct coupled, Reynolds Corliss engine; National Tube Co., Pittsburg, three vertical, triple-expansion pumping engines, 15,000,000 gals. capacity each; Calumet & Ariz. Mining Co., 12 × 15 geared hoisting engine; Bd. Pub. Wks., Kansas City, K. C. W.-W. Co., duplex double-acting Riedler pump, 18¾ × 42 stroke, with a 4-cylinder triple-expansion Corliss engine 24, 42 and two 50 diam. × 42 stroke, with auxiliary machinery, consisting of two special suction surface condensers, condenser piping and air pumps, air pump piping and separator drain pumps. The company has secured the contract for the grinding machinery and rotary kilns for the 4,000 and 2,000 bbls. cement plants which are being erected by the U. S. Steel Corporation at its Illinois Steel Co. plant at South Chicago, and the Carnegie Steel Co. plant at Pittsburg. The order consists of 28 No. 8 Gates ball mills, 30 5 × 22 ft. Gates tube mills, and 25 rotary kilns of special design.

THE ALLIS-CHALMERS CO., Milwaukee, Wis., report the following partial list of engine sales for April: Am. Steel & Wire Co., Shoenberger Works, Pittsburg, one 46 and 84 × 60 vertical standard long crosshead Bessemer blowing engine; one 80 and 84 × 60 vertical standard L. P. furnace blowing engine; C. A. McDonald, Chicago, one 16

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x 36 girder frame engine; T. A. Anderson & Co., Lancaster, Pa., one 10 x 30 girder frame Reynolds Corliss engine; J. M. Arnold, 34 W. Monroe St., Milwaukee, one 16 x 36 1890 frame Reynolds Corliss engine; El Oro Mining & Ry. Co., Ltd., Mex., one 20 and 40 x 42 1890 tandem compound Reynolds Corliss engine; Harbison-Walker Co., Pittsburg, one 22 x 48 1890 frame Reynolds Corliss engine; Marcus Bernheimer Milling & Mercantile Co., St. Louis, one 24 x 48 girder frame Reynolds Corliss engine; Kingsford Foundry & Machine Wks., Oswego, N. Y., one 20 and 14 x 42 1890 half duplex air compressor; Valley Oil Mills, Memphis, one 18 x 36 girder frame Reynolds Corliss engine; Wheeling (W. Va.,) Steel & Iron Co., one 44 and 84 x 60 vertical standard blowing engine; Cunningham, Beckelheimer Supply Co., Norborne, Mo., one 12 x 36 1890 frame Reynolds Corliss engine; W. A. Jones Foundry & Machine Co., Chicago, one 14 x 36 girder frame Reynolds Corliss engine; Larson & Greenough, Mullan, Ind., one 10 x 30 girder frame Reynolds Corliss engine; Jones & Laughlins Steel Co., Pittsburg, one pair 44 and 84, 84 and 84 by 60 vertical standard compound disconnected blowing engine, one 44 and 84 x 60 HP. engine; National Biscuit Co., New York, one 20 x 42 1890 frame Reynolds Corliss engine; C. A. McDonald, Chicago, one 12 and 22 x 36 tandem compound engine; Diamond Match Co., Chico, Cal., one 32 x 48 1890 Reynolds Corliss engine; Jones & Laughlins Steel Co., Eliza Furnaces, Pittsburg, three 46 and 85, 84 and 84 x 60 vertical steeple cross compound condensing furnace blowing engine; Highland Park Mfg. Co., Charlotte, N. C., one 30 and 64 x 60 1890 cross compound engine with boilers, condenser, piping, etc.; City of Ely, Minn., one 14 and 28 x 36 1890 frame cross compound Reynolds Corliss engine; Chas. Pope, Chicago, two 12 x 36 and 18 x 36 1890 frame horizontal Reynolds Corliss engines; National Tube Co., McKeesport, Pa., three 46 and 86, 84 and 84 x 60 vertical steeple cross compound furnace blowing engines; Carnegie Steel Co., Pittsburg, two pairs 44 and 84, 84 and 84 x 60 vertical standard disconnected compound blowing engines; National Steel Co., Pittsburg, two 50 and 96 and 96 x 60 vertical steeple cross compound furnace blowing engines; Morowebb Cotton Mill Co., Dallas, N. C., one 20 x 42 1890 frame horizontal Reynolds Corliss engine; Smeeth's Copper & Bronze Co., Chicago, one 14 and 28 x 24 vertical cross compound cond. dir. con. engine, one 12 and 24, 12 and 20 x 36 air compressor; Wheeling (W. Va.,) Steel & Iron Co., Wheeling, one 44 and 84 x 60 vertical standard blowing engine; Construction Co. of America, New York, two 20 and 40 x 42 1890 frame horizontal cross compound Reynolds Corliss engines; Grand Rapids (Mich.) Veneer Works, one 32 x 48 1890 frame horizontal Reynolds Corliss engine; Munising (Mich.) Paper Co., Ltd., two 20 x 36 1890 frame horizontal Reynolds Corliss engines.

NEW COMPANIES.—Bartz, Wygant & Brown, Albany, N. Y.; electric motors, etc.; $60,000; Frank Bartz, Alfred E. Brown, Hornellsville, N. Y.

Macgowan & Finnigan Foundry & Machine Co., St. Louis, Mo.; $50,000; P. S. Macgowan, H. P. Finigan, W. McB. Smith.

Metropolitan Engineering Co., Brooklyn, N. Y.; electrical and mechanical appliances, $30,000; F. W. Jesser, A. H. Laidlaw and M. E. Elliott.

American Steel & Electrical Co., 75 Jackson St., Trenton, N. J.; $125,000; Bertil von Philip, Harry L. Ogden and J. M. Thorn.

Toledo Construction & Supply Co., 419 Market St., Camden, N. J.; $300,000; C. E. B. Lamson, Alfred C. Nell and Herman Merriam.

Chicago Engineering & Constructing Co., 419 Market St., Camden, N. J.; $250,000; F. R. Hansell, George H. B. Martin and Jos. F. Cotter.

Federal Elevator Co., Minneapolis, Minn.; $250,000; John R. Marfield, Pres.; Benj. C. Crangle, Secy.

Panther Hill Granite Quarry Co., 810 Broad St. Newark, N. J.; $100,000; Oscar Staeger, Aug. D. Heyne.

Orange Automobile Exchange & Mfg. Co., Orange, N. J.; manufacturing automobile parts; $50,000; Geo. J. Althen, Baltis A. Durham, R. Arthur Hiller, Newark, N. J.

California Wood-Fiber Plaster Co., Oakland, Cal.; $50,000; F. M. Umphred, J. W. Umphred, and W. E. Jones.

Rincon Foundry Co., San Francisco, Cal.; $50,000; A. F. Kindt, Emory C. Brace, J. A. Ryan.

Elevator Fireproofing Casing Co., 419 Market St., Camden, N. J.; $600,000; G. W. Grand, Jos. F. Cotter, Wm. F. Eidell.

Shepherd Engineering Co., 419 Market St., Camden, N. J.; $150,000; Jos. F. Cotter, Wm. F. Eidell, G. W. Grand.

Omeara Valve Co., 1 Montgomery St., Jersey City, N. J.; $125,000; Jeremiah Omeara, Howard S. Hadden, Hy. W. Beebe.

Pittsburg Cement Co., Newark, N. J.; $1,000,000; Joseph H. Reall, 514 Fitzsimmons Bldg., Pittsburg, Pa.

American Surface Electric Railway Supply Co., Oakland, Cal.; $2,500,000; Eugene J. Drussel, F. H. Ayers, Geo. R. Gilmour.

Interurban Financing & Construction Syndicate, Albany, N. Y.; $5,000,000; contracting, etc.; Alfred Lamar, New York; Arthur H. Elliott, Philadelphia, and Peter Schwab, Hamilton, O.

St. Joseph Street Construction Co., St. Joseph, Mo.; $10,000; John J. McDonald, Marvin Davis.

Loomis-Pettibone Gas Machinery Co., Trenton, N. J.; $2,000,000; Benjamin Guggenheimer, New York; Hawley Pettibone, New Rochelle, N. J.

The Moffett Electric Railway Bearing Co., Trenton, N.J.; $3,000,000; Saml B. Thropp, Jr., John Holran, Jr., Geo. B. Saddler, Jersey City, N. J.

Southern Construction Co., Orange, Tex., $200,000; to construct railways and bridges; L. Miller, E. Beuhler, Orange; W. L. Lewis, Bay City.

Sheahan Rotary Engine Co., 419 Market St., Camden, N. J.; $200,000; engine boilers; W. A. Sheahan, J. F. Wallace, and S. F. Andrews, Camden, N. J.

Magnet Wire Co.; $100,000; J. D. Maguire, Edwin Moore and A. P. Nevin, New York.

Electro-Manganese Co., Fredericton, N. B.; $1,500,000; to obtain ferro-manganese from road and bog ores for electric reduction; B. E. Kingman, New York; Matthew W. Lodge, Moneton, N. B.

PUBLICATIONS RECEIVED.

THE SOLAR SYSTEM.—Six Lectures Delivered at the Massachusetts Institute of Technology in December, 1902. By Percival Lowell, Non-Resident Professor of Astronomy at the Massachusetts Institute of Technology, and Director of the Lowell Observatory, Flagstaff, Ariz. Boston and New York: Houghton, Mifflin & Co. Cloth; 5 x 8 ins.; pp. 134; tables, diagrams, and plates. $1.75 net; by mail, $1.83.

THE CANAL SYSTEM OF ENGLAND.—Its Growth and Present Condition, with Particular Reference to the Cheap Carriage of Goods. By H. Gordon Thompson. Published for the Cobden Club, by Request. London: T. Fisher Unwin. Paper; 5 x 7 ins.; pp. 70. Paper, 60 cts. net; cloth, 80 cts. net.

TELEPHONY.—A Manual of the Design, Construction and Operation of Telephone Exchanges. By Arthur Vaughan Abbott, C. E. New York: McGraw Publishing Co. Cloth; 6 x 9 ins.; tables and illustrations. In Six Parts. Part I.: The Location of Central Offices; pp. 155; 33 illustrations. Part II.: The Construction of Underground Conduits; pp. 180; 62 illustrations. Part III.: The Cable Plant; pp. 142; 52 illustrations. $1.50 each, or $6 for the six volumes.

RAILWAY LEGISLATION IN THE UNITED STATES.—By Balthasar Henry Meyer, Ph.D., Professor of Institute of Commerce, University of Wisconsin. New York: The Macmillan Co. Cloth; 5 x 8 ins.; pp. 329. $1.25 net; by mail, $1.35.

THE CAR BUILDERS' DICTIONARY.—An Illustrated Vocabulary of Terms Which Designate American Railroad Cars, Their Parts, Attachments and Details of Construction. Compiled for the Master Car Builders' Association by Rodney Hitt, B. M. E., assisted by A. M. Waitt, Late Superintendent of Motive Power, N. Y. C. & H. R. R. R.; J. S. Lentz, Master Car Builder, Lehigh Valley R. R.; and W. P. Appleyard, Master Car Builder, N. Y., N. H. & H. R. R. New York: The Railroad Gazette. Cloth; 9 x 12 ins.; pp. 374; 4,971 illustrations.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3¼ x 6 ins., 6 x 9 ins., and 9 x 12 ins.)

PIPE JOINT PASTE.—James B. Clow & Sons, Chicago, New York, and Havana. Circular; 6 x 8 ins.

In a few words claims for and prices of Wisconsin graphite pipe joint paste are given.

EXTENSIBLE TRENCH BRACES.—Dunn Mfg. Co., 307 Fifth Ave., Pittsburg, Pa. Paper; 3 x 6 ins.; pp. 4; illustrated.

Both iron and timber and iron screw braces are here shown and priced.

MINING MACHINERY.—Sullivan Machinery Co., 135 Adams St., Chicago, Ill.; 3¼ x 6 ins.; pp. 16; illustrated.

This pamphlet illustrates air compressors, hoisting engines, rock drills, and diamond drills.

DIPPER DREDGES.—The Bucyrus Co., South Milwaukee, Wis.; 7½ x 10½ ins.; pp. 45; illustrated.

This catalogue consists largely of photographs of dipper dredges and dredge machinery. Dippers of ½ cu. yd. up to 8 cu. yds. capacity are shown.

THE STODDART CONTINUOUS SEWAGE FILTER.—F. Wallis Stoddart, Western County Laboratory, Bristol, England. Paper; 10 x 6 ins.; illustrated.

This is a brief illustrated description of the sewage filter described in Engineering News of Aug. 28, 1902.

BOILER CLEANER.—The Springfield Mechanical Boiler Cleaner Co., Springfield, O. Paper; 8½ x 11 ins.; one sheet illustrated.

The advantages of the Roberts apparatus are set forth, and the claims supported by testimonials of recent date.

PAINT MACHINERY.—C. O. Bartlett & Snow Co., Cleveland, O. Paper; 6 x 9 ins.; pp. 64; illustrated.

Various machines used in the manufacture of paint, chiefly mills and mixers, screens, etc., are included in this catalogue.

ELECTRIC PUMPS.—Quincy Engine Works, Chicago, Ill. Paper; 3¼ x 6¼ ins.; pp. 4; illustrated.

This pamphlet describes pumps having four plungers driven from crank drives on two short shafts, the shafts being operated by gearing from a motor mounted on the same bedplate.

DYNAMOS AND MOTORS.—The Browning Mfg. Co., Milwaukee, Wis. Paper; 6 x 9 ins.; pp. 16; illustrated.

These are small and compact machines of 1-6 HP. to 15 HP., some of which are entirely enclosed. Tables of dimensions and speeds for various power are given and the construction is described.

MACHINE TOOLS.—Garvin Machine Co., Spring and Varick Sts., New York, N. Y. Paper; 3½ x 6 ins.; pp. 32; illustrated.

Under the title "A Reminder of Machine Tools" is grouped a series of illustrations of machine tools of various kinds made by this concern.

FILES FOR DRAWINGS AND SPECIFICATIONS.—Beckbissinger, Colvin & Co., Saginaw, Mich.; 6 x 9 ins.; pp. 20; illustrated.

Oak and ash files or cabinets of various styles are shown and prices given. A method of filing that makes a card index superfluous is described.

EXPLODERS.—Repauno Chemical Co., Wilmington, Del.; 3¼ x 5½ ins.; pp. 18.

This pamphlet contains a reprint of a very instructive article on mining explosives, by A. W. Warwick, that appeared originally in "Mines and Minerals." It contains matter of value to every user of explosives.

CRANES.—Northern Engineering Works, Detroit, Mich. Paper; oblong; 9 x 6 ins.; pp. 48; illustrated.

The various types of cranes shown include overhead traveling cranes, with electric, pneumatic and hand hoists; also jib and pillar cranes, steam locomotive and dock cranes, and electric trolley hoists.

COAL-HANDLING MACHINERY.—The C. W. Hunt Co., 45 Broadway, New York City. Paper; 3¼ x 6 ins.; pp. 6; illustrated.

This folder has a number of small illustrations of complete coal-handling and storage plants, and of the machinery and appliances used in these plants.

ELECTRICAL REPAIR WORK.—National Stamping Works, Michigan St. and La Salle Ave., Chicago. Paper; oblong; 9 x 6 ins.; pp. 40; illustrated.

This pamphlet describes reconstructed dynamos and motors, etc., with cost of rewinding and other work. Special lamps and lamp fittings are also included.

ROCK CRUSHER.—National Drill & Mfg. Co., 159 La Salle St., Chicago, Ill. Paper; oblong; 10¾ x 7 ins.; pp. 12; illustrated.

The crusher is of the jaw type, with oscillating jaw, and its construction is described in detail. Stone elevators, screens, and road rollers are also included.

STEEL PULLEYS.—Niles-Bement-Pond Co., New York. Paper; 10 x 6 ins.; pp. 36; illustrated.

The "American All-Wrought Steel" split pulley is the feature of this catalogue, being shown and fully listed as to sizes, prices, etc. Hangers and pedestal bearings, shaft couplings, etc., are however also fully treated.

DRAWING INSTRUMENTS.—Eugene Dietzgen Co., Chicago and New York. Papar; 6 x 9 ins.; pp. 16; illustrated.

A new style of drawing instruments is brought out in this pamphlet—Richter's "Instruments of Precision." Several features of novelty in drawing instruments are embodied in them.

LEVELING RODS AND STEEL TAPES.—Chicago Steel Tape Co., 225 Dearborn St., Chicago. Paper, two circulars, 8½ x 11 ins.; illustrated.

One of these sheets describes the Chicago leveling rod, one style of which is made in 4 ft. lengths for portability. The other sheet gives the merits and prices of the Chicago steel tapes.

FLANGE JOINT GASKETS.—H. W. Johns-Manville Co., 100 William St. New York. Paper; 3½ x 6 ins.; pp. 12; illustrated.

A brief discussion of the requisites in a good flange joint packing ends by recommending the "Kearsarge" gasket, made from asbestos and brass wire. A list of sizes and prices is appended.

WHEELBARROWS, SCRAPERS AND PLOWS.—Syracuse Chilled Plow Co., Syracuse, N. Y.; 6 x 9 ins.; pp. 44; illustrated.

A great variety of barrows for all kinds of uses are shown in this catalogue, sizes, weights, and prices being listed. Drag and wheel scrapers and plows of many patterns are also shown.

ROLLING DOORS AND SHUTTERS.—Kinnear Mfg. Co., Columbus, O. Paper; 11 x 8 ins.; pp. 52; illustrated.

The Kinnear doors and shutters are well known, but the views of installations shown in this catalogue may serve to remind of the many ways in which they can be used to advantage. Drawings of standard arrangements are included in the pamphlet.

CONCRETE MACHINERY.—F. B. Gilbreth, Boston, Mass. Paper; 7½ x 4½ ins.; pp. 80; illustrated.

Most of this pamphlet is given up to descriptive and illustrative matter on the "Portable gravity concrete mixer." Many testimonials for this machine are reproduced. There are also shown mixing platforms, bins, measuring machines, etc.

LOCOMOTIVE INJECTORS.—Walworth Mfg. Co., Boston. Paper; 6 x 8 ins.; pp. 20; illustrated.

This company has bought from the National Tube Co. the right to manufacture the Mack injector, and in the present catalogue presents a full line of injectors of this form, to be known as the Walworth injectors. Prices, lists of parts, etc., are given.

DRAFTSMEN'S SUPPLIES.—Elliott Electric Blueprint Co., Pittsburg, Pa. Paper; 6 x 9 ins.; pp. 194; illustrated.

This concern originally made only an electric blueprinting machine, but now handles drawing instruments and supplies of all kinds. This catalogue covers the whole line, prices being given in all cases.

CENTRIFUGAL PUMPS.—John A. Yeatman Co., 13 First St., San Francisco, Cal. Paper; 6 x 9 ins.; pp. 8; illustrated.

These "Eclipse" pumps are for irrigation, land reclamation or drainage, and general service. They are made both horizontal and vertical; and tables of capacities and prices are given for both classes.

HYDRAULIC PIPE SINKING OUTFITS.—Edson Mfg. Co., 255 Atlantic Ave., Boston, Mass. Paper; 3½ x 6 ins.; pp. 20; illustrated.

These outfits consist of force pumps, flexible hose and driving points, the latter attached to the pile and delivering a jet which displaces the sand or gravel and allows the pile to sink by gravity. Details and testimonials are given.

FLUSH TANKS.—Pacific Flush Tank Co., 84 La Salle St., Chicago. Two pamphlets; paper; 6 x 9 ins.; pp. 24 and 12; illustrated.

The larger pamphlet describes the Miller and other automatic intermittent flush tanks for sewers and sub-soil irrigation systems. The smaller one deals with the Adams and Miller siphon apparatus for the automatic operation of bacterial sewage filters.

CONCRETE BUILDING BLOCKS.—The American Hydraulic Stone Co., 214 Century Bldg, Denver, Colo. Paper; 7 x 10 ins.; pp. 8; illustrated.

These blocks are of channel section with a central rib, and when put together form a hollow wall. The face may be plain or rough, and special blocks form lintels, window openings, cornices and decorative parts. Testimonials and reports of tests are given.

ELECTRIC MACHINERY AND SUPPLIES.—General Electric Co., Schenectady, N. Y.; 8 x 10½ ins.; illustrated.

A large number of separate bulletins, each illustrating and describing some article manufactured, are arranged to be bound together, so that additions or changes may be made from time to time. About a hundred of these bulletins are listed for this year, and they treat of generators, motors, converters, meters, lamps, transformers, switches, switchboards, etc., etc.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

CREOSOTING TIMBER.—Atlantic Creosoting and Wood Preserving Works, Norfolk, Va.; 5½ × 7½ ins.; pp. 32; illustrated.

This interesting pamphlet contains much valuable information on timber preservation, largely abstracted from papers read before technical societies and from other reliable sources. The capacity of the creosoting plant, as given, is 50,000 ft. B.M. a day.

DRILLING MACHINES AND CONTRACTORS' LOCOMOTIVES.—Davenport Machine Works, Davenport, Ia. Two pamphlets; paper; 3½ × 6 ins., pp. 6; 6½ × 7 ins., pp. 2; both illustrated.

The first of these pamphlets contains general specifications for a four-wheel saddle-tank locomotive. The other describes a special machine with six or eight spindles for drilling the axle bars of car trucks.

PNEUMATIC TUBES AND PARCEL CARRIERS.—Lamson Consolidated Store Service Co., Lowell, Mass. Paper; 9 × 6 ins.; pp. 20; illustrated.

Pneumatic tubes and wire or cable parcel carriers, etc., are a necessity for saving time in many establishments, as stores, extensive offices, etc. The present pamphlet illustrates their application to newspaper offices.

ELECTRIC DRIVING.—D'Olier Engineering Co., Philadelphia, Pa. Paper; 7 × 10 ins.; pp. 8 and 8; illustrated.

Several convenient and economical adaptations of electric motor driving are the features of "bulletins 2 and 3, series D." In one are shown some details of the electric equipment of cement mills, while electrically-driven centrifugal separators are shown in the other.

METAL SHEET PILING.—Interlocking Channel Bar Co., 1412 Tribune Building, Chicago. Paper; 6 × 9 ins.; pp. 16; illustrated.

These piles are of steel channels, with Z-bar riveted to alternate channels to form grooves for the flanges of the adjacent channels. The system is shown as applied to shaft sinking, cofferdams, foundations, etc. Testimonials are given as to the efficiency of this piling.

ELECTRIC TRAIN LIGHTING.—De Laval Steam Turbine Co., 74 Cortlandt St., New York. Paper; 6 × 9 ins.; pp. 31; illustrated.

At the convention of the "Verein Deutscher Ingenieure" a year ago, a paper on "Electric Train Lighting on the Prussian Railways" was read by Mr. Wichert. This paper is here reprinted in translation. The De Laval steam turbine is used to drive the dynamos used in that work.

ROCK DRILLS.—The John M. Rogers Boat, Gauge & Drill Works, Gloucester City, N. J.; 6 × 9 ins.; pp. 30; illustrated.

The steam or compressed air drills made by this company are fully illustrated and described. Line cuts showing detailed cross sections of the drill and its parts are shown, also cuts of drill accessories, hose couplings, blasting machines, etc. Drill steel is also sold by the company and a price list is given.

MACHINE TOOLS.—Niles-Bement-Pond Co., 136 Liberty St., New York. Paper; 9 × 12 ins.; 3 pamphlets, each 47 pp.; illustrated.

Three very handsome catalogues take up separate subdivisions of tools. The first covers Boring Machines, both for general work and for various special purposes, such as cylinder boring, chord boring, etc. A second takes up Multiple Drills, built in a great range of sizes and capacities. Boring, Drilling and Milling Machines, in the third catalogue, are a more developed type of boring machine, and are most of them large floor-plate machines with horizontal spindle carried on a column. A number of machines in all three catalogues are built for direct electric motor drive.

SPIRAL RIVETED PIPE.—American Spiral Pipe Works, 1173 S. Paulina St., Chicago, Ill. Flexible cloth; 4 × 8 ins.; pp. 40; illustrations and tables.

Pipe from 3 to 40 ins. in diameter, with various thicknesses of shell, is here described and priced in tabular form. Designs and tables of dimensions for specials are given, and a number of styles of joints are shown. Finally, mention may be made of some twelve pages of tables and other engineering information.

CLIPS FOR STRUCTURAL WORK.—H. A. Streeter, 31 Indiana St., Chicago. Paper; 3½ × 6 ins.; pp. 32; illustrated.

These clips are for connecting angles or T-bars to steel I-beams or other structural shapes, and have been used in a large number of office buildings and other buildings of steel construction. Their advantages over bolted connections are pointed out, and there is a list of buildings in which they have been used, together with testimonials.

COAL-HANDLING MACHINERY.—C. W. Hunt Co., 45 Broadway, New York. Paper, 6 × 9 ins.; pp. 18; illustrated.

To give a general survey of practical coal and ash-handling installations a large number of views of actually-constructed plants is collected in this pamphlet. Some appropriate explanatory remarks accompany the views. It is pointed out that the location, money available, etc., are important factors in the design of such plants and render them actual rather than ideal cases.

CONCRETE MIXERS.—Kaltenbach & Griess, Engineers, Cleveland, Ohio; 6 × 9 ins.; pp. 28; illustrated.

Some very interesting photographs and line cuts are shown of various concrete mixing plants, using the K.G. cubical mixer. One photograph shows a pair of patent clamp hooks handling a very large block of concrete on the Cleveland breakwater work. The hooks do not require rings or dog holes, but will cling to a smooth face of concrete or stone. A long list is given of works where the K. G. mixer has been used.

WIRE ROPE AND CORDAGE.—A. Leschen & Sons Rope Co., 920-922 North First St., St. Louis, Mo.; 3½ × 6 ins.; pp. 80; illustrated.

While the standard forms of ropes, blocks and fastenings are shown, the feature of special interest in this catalogue are the patent "flattened strand" wire ropes, for which a longer life is claimed than with ropes of the ordinary or Lang's lay construction. A specially prepared "black manila rope" is also advertised. The manila is laid in plumbago, tallow and other waterproofing, and is said to have a long life.

COAL-HANDLING MACHINERY.—C. W. Hunt Co., West New Brighton, Staten Island, N. Y. Paper; 6 × 9 ins.; pp. 18; illustrated.

The apparatus described includes coal crushers, elevators, unloading towers and buckets, cars, scales, hopper doors, screens and a variety of other appliances. There are numerous half-tone engravings of plants installed, and line engravings showing the arrangement of coal-handling plants at large power stations.

TRACTION TRENCH DIGGERS.—The Van Buren, Heck & Marvin Co., 118-132 Fair St., Findlay, O.; 6 × 9 ins.; pp. 38; illustrated.

The "Buckeye Traction Ditcher" is described in detail and it is shown at work digging trenches up to 6 ft. in depth. Revolving buckets excavate the earth and deliver it to a belt conveyor that deposits the material alongside the trench. The machine is made in five sizes, and we are informed that a sixth size, digging a trench 8 ft. deep and 4½ ft. wide, is now made. It is stated that a Buckeye ditcher will cut from 8 to 20 rods of sewer or water-pipe trench per hour.

GYRATORY ROCK CRUSHERS.—Austin Mfg. Co., Manhattan Bldg., Chicago, Ill.; 7½ × 11 ins.; pp. 84; illustrated.

This handsome catalogue is profusely illustrated with photographs of crushing plants, and scores of testimonials accompany the illustrations. Line cuts showing dimensions of the crusher and their parts are also given, and many cross sections of buildings equipped with crushing plants. This last feature is especially to be commended, as it will prove of value to any one designing a crushing plant. Sizes, output and prices of the Austin gyratory crushers are given.

GARBAGE CREMATION.—The Dixon Garbage Crematory Co., Toledo, O. Circular Letters.

The e circulars consist of reprints, in typewritten form, of (1) remarks by Dr. Heber Jones, President of the Board of Health of Memphis, Tenn., made at the last annual meeting of the American Public Health Association; and (2) a letter in which the substances of the remarks is repeated. Both circulars relate chiefly to the two Dixon garbage crematories at Memphis, and the saving of long hauls incidental to the former practice of dumping the garbage in the Mississippi River. The Memphis crematories are centrally located, but is claimed that they give rise to no complaints.

NARROW-GAGE RAILWAY EQUIPMENT.—Arthur Koppel, 66-68 Broad St., New York City; 8 × 10 ins.; pp. 80; illustrated.

This interesting catalogue contains a great variety of cars, of rails, of portable tracks for industrial and contract work, turntables, crossings, switches, and in a word every piece of equipment for light railways. The great variety of cars is particularly noteworthy. Beside the well-known Koppel V-shaped dump cars, there are shown coke and slag cars, square box contractor's dump cars, mine cars of many patterns, tipples, trucks and lumber cars, flat, gondola and box cars, sugar cars and many special types of cars for industrial purposes.

SEWER PIPE AND OTHER VITRIFIED CLAY PRODUCTS.—Arthur N. Pierson & Co., 1 Park Row, New York city. Paper; 6 × 9 ins.; pp. 62; tables and illustrations.

As eastern agents for the American Sewer Pipe Co. this concern handles granite, stoneware, standard Akron, and Ohio River fire clay sewer pipe, fire clay, flue linings, drain tiles, Porter paving brick, manhole heads and castings, and glazed and white goods. Quotations and dimensions for the lines indicated are given in this catalogue, and in addition it contains some useful tables.

SEWERS AND WATER-WORKS.

Alexandria Bay, N. Y.

Sealed proposals for the construction of sewers and water-works for the village of Alexandria Bay, N. Y., will be received by the Board of Trustees at the office of the Village Clerk, at that place, up to 2 o'clock P. M. of July 8, 1903, and then opened.

Each proposal must be accompanied by a certified check for $100, payable to the order of Walter Fox, Treasurer.

Plans and specifications can be seen and blank forms obtained at the office of the Village Clerk, or at the office of F. A. Hinds, C. E., 28 Flower Bldg., Watertown, N. Y.

The right is reserved to reject any or all bids.

H. A. CORNWELL, President.
J. P. THOMSON, Village Clerk.

Specifications may be seen at the offices of Engineering News in New York and Chicago. 26-1t

WHEEL PIT AND RACE BRANCH TUNNELS.

Niagara Falls, Ont.

Sealed proposals, marked "Bid for Wheel Pit and Two Tail Race Branch Tunnels," will be received by the undersigned until noon, July 14th, 1903, for the construction of a Wheel Pit and Two Tail Race Branch Tunnels for the Electrical Development Co. of Ontario, Ltd., Toronto, Ont. Plans and specifications for this work are on file and may be seen after June 15, 1903, at the Company's Offices, Home Life Building, Toronto, Ontario, and Niagara Falls, Ontario, or at the office of F. S. Pearson, Consulting Engineer, No. 29 Broadway, New York. The right is reserved to reject any or all proposals.

FREDERIC NICHOLLS,
Vice-President and General Manager,
25-4t Home Life Bldg., Toronto, Ont.

CONDUIT, WELL SYSTEM AND WATER PIPE.

Sioux City, Ia.

Sealed proposals will be received at the office of the President of the Board of Trustees of the Sioux City Water-Works, of Sioux City, Ia., until 5 o'clock p.m., July 10, 1903, for the reconstruction of the Section Main, Conduit and Well Systems at the Main St. Pumping Station. Plans and specifications may be obtained at the office of the City Engineer.

Also proposals for laying approximately 2,100 tons of cast-iron water pipe, ranging from 6 to 16-in. in diameter, together with specials, valves and hydrants. A map of pipe lines, plans and specifications may be obtained at the office of the City Engineer. Bids to be submitted separately for each contract and a certified check on some solvent bank of Sioux City or New York draft must accompany each bid, made payable to the City Treasurer in the sum of 5% of amount of bid, to insure the signing of contract, and the furnishing of a satisfactory bond within ten days after the award is made. The right is reserved to reject any or all bids.

G. B. HEALY, President.
J. M. LEWIS, City Engineer. 25-2t

4,600-FT. BRICK AND CONCRETE SEWER.

Newark, N. J., June 22, 1903.

Sealed proposals will be received at the office of the Board of Street and Water Commissioners, 128 Halsey St., on Thursday, July 2, 1903, from 3:15 to 3:30 p.m., for the construction of about 4,600 lin. ft. of Brick and Concrete Sewers, ranging in size from three (3) feet to six (6) feet by twelve (12) feet interior dimensions.

Plans and specifications may be seen at the office of the Engineer, of the Department of Sewers and Drainage. 26-1t

GRAVITY WATER-WORKS.

Blue Ridge Water Supply Co.,
Weissport, Pa.

Sealed proposals will be received at Walnutport, Pa., up to 2 o'clock p.m., on the 7th day of July, 1903, for furnishing the materia and doing the work necessary to construct a Gravity System of Water-Works for the Blue Ridge Water Supply Co.

It embraces approximately:

15,000 ft. of 6-in. pipe;
4,000 ft. of 4-in. pipe;
5 double nozzle fire hydrants;
15 6 and 4-in. valves and boxes;
800,000-gall. storage reservoir;
500,000-gall. receiving basin.

Each proposal must be accompanied by a certified check for Five Hundred ($500) Dollars, made payable to R. J. Hongen, President of the Blue Ridge Water Supply Co., such check to be forfeited by the successful bidder in case he refuses to sign the contract for the work bid upon within ten (10) days of the time the same is awarded to him.

Plans may be seen and specifications and forms of proposals obtained at the office of the Engineer at Sellersville, or at the office of A. P. Andrews, Treasurer, in Walnutport, Pa.

The Blue Ridge Water Supply Co. reserves the right to reject any or all bids for the work.

R. J. HONGEN, President.
Weissport, Pa.

WARREN F. CRESSMAN, Engineer,
25-3t Sellersville, Pa

WATER-WORKS FRANCHISE.

Horseheads, N. Y.

The Board of Trustees of the Village of Horseheads, N. Y., have plans ready for the construction of a System of Water-Works. The Board proposes to grant a franchise to the company offering satisfactory terms for the construction and operation of said system. An Electric Lighting System may also be connected therewith. For further information, address 25-2t

K. G. EISENHART, President.

SUBSIDING AND COAGULATING BASINS.

Office of City Water-Works,
Richmond, Va., June 11, 1903.

Sealed proposals for the construction of Subsiding and Coagulating Basins, and the work pertaining thereto will be received here until 5 p m., July 1, 1903, and then publicly opened. The right to reject any or all proposals is reserved by the Committee on Water. Approximate estimate of work to be done $300,000.

C. E. BOLLING,
25-2t Superintendent.

U. S. ENGINEER OFFICE, 518 Bradbury Building, Los Angeles, Cal., June 24, 1903.—Sealed proposals for Suction Dredge will be received here until 11 a. m., July 24, 1903, and then publicly opened. Information furnished on application. J. H. WILLARD, Major, Engrs., U. S. A. 26-4t

U. S. ENGINEER OFFICE, Charleston, S. C., June 20, 1903.—Sealed proposals for furnishing and delivering about 17,000 barrels American Portland Cement at Charleston, S. C., will be received here until 12 noon, July 21, 1903, and then opened. Information furnished on application. G. P. HOWELL, Capt., Engrs. 26-4t

STANDARD BOOKS on .... ENGINEERING

and allied subjects are kept in stock at our Chicago Office, 1636 Monadnock Block, where they may be examined at any time. All orders or letters of inquiry sent to our Chicago Office will have prompt attention. Send money with the order.

THE ENGINEERING NEWS PUBLISHING CO., 220 Broadway, New York.

For Proposals see pages XXXI., XXXII. of Advertisements and pages 368, 369 of Supplement.

ECONOMICS OF ROAD CONSTRUCTION

By H. P. GILLETTE

Cloth, 6x9 ins. Price, $1.00

A BOOK ON

COSTS

Giving Costs of Quarrying, Crushing, Hauling, Spreading and Rolling of Macadam, Based upon Actual Cost of Contract Work.

The Engineering News Publishing Company, 220 Broadway, New York.

3½ MILES OF STREET WORK.

Canonsburg, Pa., June 18, 1903.

Sealed proposals for the grading, paving, curbing, and otherwise improving about 3½ miles of several streets and alleys of the Borough of Canonsburg, Washington county, Pa., will be received until Monday, July 6, at 7.30 p. m., at which time proposals will be opened and read. Check $1,000, bond $35,000.

Plans may be seen at Council Chamber and specifications and form of proposals obtained form Borough Clerk. Council reserves the right to reject any and all bids.

R. H. COULTER,
President of Council.

GEO. McPEAK, Clerk.
C. K. TAYLOR, JR., Borough Engineer
26-1t

25,300 YDS. OF PAVING.

Bids will be received at the city clerk's office, Kalamazoo, Mich., until 5 o'clock p. m., Monday, July 6, 1903, for paving with some suitable material South street, from Michigan avenue to Portage street, 13,900 square yards, more or less, with 8,600 lineal feet, more or less, combined curb and gutter; Park street and Park place, from Lovell street to West street, 11,400 square yards, more or less, with 7,200 lineal feet, more or less, combined curb and gutter. A certified check of five per cent. of the amount of the bid must accompany all bids. Specifications can be seen at the office of the city engineer. The city reserves the right to reject any and all bids.

HARRY W. BUSH, City Clerk.
Kalamazoo, Mich., June 17, 1903. 26-1t

GRADING AND PAVING NOTICE.

Rensselaer, N. Y., June 12, 1903.

Sealed proposals will be received by the undersigned, at the office of the City Clerk, City of Rensselaer, N. Y., until 8 o'clock p. m. July 3d, 1903, for the Grading and Paving, with brick, granite block, asphalt, and bituminous macadam waterproof pavement, and furnishing and setting granite curb, building new catchbasins and repairing old ones, and all other work which may be necessary to complete the proposed improvements on Broadway, Tracey St., Forbes Ave., Ferry St., Green St., Elm St., First St., and Partition St., City of Rensselaer.

The said proposals to be in accordance to plans and specifications on file in the City Clerk's Office, or in the office of C. A. Roemer, Engineer, 508-509 Cannon Place, Troy, N. Y.

ANTHONY J. HOOGKAMP,
25-3t City Clerk, City of Rensselaer, N.Y.

WATER-WORKS AND ELECTRIC PLANT.

Clayton, Ala.

Sealed proposals will be received by the Town of Clayton, Ala., up to eight (8) o'clock p. m., June 26, 1903, for the machinery, apparatus, material and construction work required in the proposed Water-Works and Electric Light Plant.

Proposals must be addressed to the Town of Clayton, Ala., and enclosed in a sealed envelope addressed to James J. Winn, City Clerk, Clayton, Ala.

Certified check made payable to the Treasurer of the Town of Clayton, for at least ten (10%) per cent. of the contract price, to accompany each bid.

Drawings and general specifications can be seen at the office of James J. Winn, City Clerk, Clayton, Ala., on and after June 16, 1903. For further information apply to either J. S. Williams, Mayor, or J. J. Winn, Jr., City Clerk.

J. S. WILLIAMS,
25-2t Mayor.

PIPE SEWERS.

Williamsport, Pa., June 16, 1903.

Sealed proposals will be received by the Highway and Sewer Committee of Councils of the City of Williamsport, Pa., until 2 o'clock p. m., Wednesday, July 1st, 1903, for the construction of House Sewers on First Street and Second Street. Sewers to be constructed of 10-in. Terra Cotta Vitrified Pipe, with all necessary manholes, Y-branches and connections.

Plans and specifications and blank proposals can be seen and had at City Engineer's office. Each proposal must be accompanied by a certified check for 10 per cent. of the amount bid.

The right is reserved to reject any or all bids.

JAMES F. FISHER,
City Engineer.
J. J. GALBRAITH,
City Clerk. 26-1t

WATER PIPE, DAM, ETC.

The Town of Needham, Mass., will receive proposals for laying Vitrified and Cast Iron Conduits and building an Intake Chamber, Dam and Reservoir Basin, until 6 p. m., Wednesday, July 8th, 1903. Specifications and plans can be seen at the office of the Engineer, 101 Tremont St., Boston, where blank forms of proposal can be obtained by intending bidders. FREDERICK G. TUTTLE, GEO. H. TOONE and WILLIAM CARTER, Water Commissioners; LOUIS E. HAWES, Engineer, Needham, Mass., June 24th, 1903. 26-1t

WATER-WORKS PIPE SYSTEM.

Sioux Falls, S. D., June 16, 1903.

Sealed proposals for the construction of a Water-Works Distribution Pipe System, in accordance with the plans and specifications therefor prepared by Loweth & Wolff, civil engineers, will be received by the Board of Water Commissioners of the City of Sioux Falls, S. D., at the office of the board in said city, until 10.00 o'clock a. m., of the 11th day of July, 1903, at which time and place they will be publicly opened and read.

The work will comprise four separate items, as follows:

Item 1. The furnishing F. O. B., Sioux Falls, of the required amount of pipe and special castings.

Item 2. The furnishing F. O. B., Sioux Falls, of the required number of fire hydrants.

Item 3. The furnishing F. O. B., Sioux Falls, of the required number of valves and boxes.

Item 4. The pipe laying and setting of valves and hydrants, and all work incidental thereto.

There will be required approximately 21½ miles of cast iron pipe from 4 inch to 20 inch diameter. 1½ miles of 1½ inch galvanized wrought iron pipe, 30—6 inch and 113—4 inch fire hydrants, 93 gate valves and boxes from 4 inch to 20 inch in size, and 38 1½ inch valves.

Bids will be received for one or more of the above portions, and the right is reserved to let the work in separate portions, or in one or more contracts.

Each bid must be accompanied by a certified check, made payable unconditionally to the order of the City Treasurer of the City of Sioux Falls, S. D., said check to be in the sum of $150.00 each for Items 2 and 3, and $1,000.00 each for Items 1 and 4, or $2,000.00 for a bid on the entire work.

All bids must be made on blank forms provided for that purpose, and must be filed with W. R. Marshall, secretary of the board.

Plans and specifications may be seen and blank forms of proposal obtained at the office of the secretary in Sioux Falls, at the office of Loweth & Wolff, civil engineers, First National Bank building, St. Paul, Minn., and at The Engineering News office, Chicago. The right is reserved to reject any or all bids.

W. R. MARSHALL,
26-2t Secretary.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 22, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m. on the 27th day of July, 1903, and then opened, for the construction (including heating apparatus and electric wiring and conduits) of the U. S. Post Office at Centerville, Iowa, in accordance with the drawings and specification, copies of which may be had at this office, or at the office of the Postmaster at Centerville, Iowa, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 26-2t

UNLOADING WATER PIPE.—EXCAVATING.

NOTICE TO CONTRACTORS.

Public notice is hereby given that the Council of the City of Perth Amboy will meet at the Council Chamber, at the City Hall, in the City of Perth Amboy, County of Middlesex, and State of New Jersey, on Monday, the 6th day of July, instant, 1903, at half past eight o'clock in the evening, for the purpose of receiving sealed bids and proposals for furnishing the materials and performing the work and labor necessary in unloading from railroad cars, hauling and distributing about 1,800 tons of 24-inch cast-iron water pipe, special castings, valves, etc.; also for excavating and refilling trenches and laying said pipes and appurtenances therein, in the townships of Madison and Savreville and the borough of South Amboy, in said County; said quantity embraces about 16,000 feet of 24-inch, 100 feet of 16-inch and 100 feet of 6-inch water pipe.

The contractor will be required to complete said work in 60 working days. Each proposal must be accompanied by a certified check for $300.00 payable to the Treasurer of the City of Perth Amboy, said check to be returned to the unsuccessful bidder.

Plans may be seen and inspected and specifications had at the office of the Water-Works Superintendent at the City Hall in said City.

The Council reserves the right to reject any or all bids.

JOSEPH G. BURNS,
26-1t Water Supt.

30 MILES OF RAILWAY CONSTRUCTION.

Cape Breton, Canada.

The Mabou & Gulf Railway Co., Ltd., will receive tenders for the complete construction of thirty miles of its road complete, except equipment. Payment to be part cash, balance bonds. Part of road now in operation. Address J. BOARDMAN CANN, President, Mabou, Cape Breton, N. S. 26-3t

GRADING, BRICK PAVING AND CURBING.

City Clerk's Office,
Rensselaer, N. Y., June 19, 1903.

The City Clerk of the City of Rensselaer will, pursuant to a resolution duly adopted by the Common Council of said city, receive proposals at his office in the City of Rensselaer, N. Y., until seven o'clock P. M. on the third day of July, 1903, for the grading and paving with vitrified paving block or brick of Second Ave. from its intersection with Broadway to the bridge crossing Red Mill Creek, of Columbia St. from its intersection with Broadway to the south line of Aiken Ave., of Third St. from the present north line of the granite pavement to the south line of Washington Ave., of Fowler St. from its intersection with Third St. to the east line of Fourth St., of Fourth St. from its intersection with Fowler St. to the south line of Washington Ave., of Tracey St. from the west line of Broadway to the west line of Forbes Ave. with vitrified paving brick or block or with Warren's patent bitulithic pavement; of Forbes Ave. from the north line of Tracey St. to the north line of Central Ave. with vitrified paving brick or block, or with Warren's patent bitulithic pavement; of Ferry St. from the west line of Broadway to the westerly terminus of said Ferry St., of Green St. from the south line of Second Ave. to a point 375 ft. south of the south line of said Second Ave., of Elm St. from the south line of Herrick St. to a point 350 ft. south of the south line of said Herrick St., and of First St. from the north line of Partition St. to the north line of Catharine St.; and for the grading and paving with vitrified paving brick or block, or with Warren's patent bitulithic pavement, of Broadway from the north line of the present granite pavement to the south line of Washington Ave., and for grading and paving with granite block of Partition St. from the east line of Third St. to the east line of Sixth St., and for furnishing and setting granite curbstones, building new catch-basins and repairing old ones, and for all other work necessary to complete the proposed improvements on said streets, according to the maps, plans, profiles and specifications adopted by the said Common Council and now on file in the said City Clerk's office, and according to an ordinance duly adopted by said Common Council June 18, 1903.

A. J. HOOGKAMP,
26-2t City Clerk.

PIPE SEWER CONSTRUCTION.

Summit, N. J.

Sealed proposals will be received by the Common Council until 8 p. m., July 7, 1903, for constructing about 7,000 lin. ft. of 12-in., 15-in. and 18-in. Vitrified Pipe Sewer with appurtenances.

Plans and specifications on file with the City Clerk and City Engineer.

Bond required—$8,000 with two resident sureties, or a surety company.

Proposals must be made on blanks furnished by the City Engineer.

For information, blanks, etc., address Edward D. Rich, City Engineer.

ROBERT J. MULDOWNEY,
26-2t City Clerk.

OFFICE OF THE COMMISSIONERS, D. C., Washington, June 19, 1903.—Sealed proposals will be received at this office until 12 o'clock noon, Friday, July 3, 1903, for laying asphalt block pavements. Blank forms of proposal, specifications, and all necessary information will be furnished at the Office of the Engineer Commissioner, D. C. H. B. F. MACFARLAND, HENRY L. WEST, JOHN BIDDLE, Commissioners, D. C. 26-2t

U. S. ENGINEER OFFICE, Jones Bldg., Detroit, Mich., June 23, 1903.—Sealed proposals for hire of two or three dredging plants for use in lower Lake Huron, St. Clair River and Lake, and upper Detroit River, will be received here until noon (standard time) July 23, 1903, and then publicly opened. Information furnished on application. W. H. BIXBY, Major, Engrs. 26-4t

ENGINEER OFFICE, U. S. Army, Room 2, Custom House, Norfolk, Va., June 16, 1903.—Sealed proposals for dredging harbor at Norfolk, Va., in removing Hospital Point, will be received here until 12 m., July 16, 1903, and then publicly opened. Information furnished on application. 26-2t

U. S. ENGINEER OFFICE, Grand Rapids, Mich., June 22, 1903.—Sealed proposals for Steam Plant for Suction Dredge will be received here until 3 p. m., July 22, 1903, and then publicly opened. Information furnished on application. M. B. ADAMS, Lieut.-Col., Engrs. 26-4t

U. S. ENGINEER OFFICE, Witherspoon Building, Philadelphia, Pa., June 18, 1903.—Sealed proposals for constructing two steel, twin-screw, Suction Dredges, will be received here until 12 o'clock noon, of July 18th, 1903, and then publicly opened. Proposals for constructing both dredges or one will be received. Information furnished on application. J. C. SANFORD, Capt., Engrs. 25-4t

U. S. ENGINEER OFFICE, 1637 Indiana Ave., Chicago, Ill., May 27, 1903.—Sealed proposals for manufacture and erection of four riveted Steel Highway Bridges will be received here until noon, June 27, 1903, and then publicly opened. Information on application here, or to Assistant Engineer, L. L. WHEELER, Sterling, Ill. J. H. WILLARD, Maj. Engrs. 23-4t

NOTICE TO CONTRACTORS.—City of Boston.—Boston Transit Commission.—Sealed bids for constructing Section F of the East Boston Tunnel, from the westerly end of the Old State House, across Washington St. and along Court St. to near Tremont St., including a station in Court St., and underpinning the Sears Building, etc., will be received by the Commission at its office 20 Beacon St., Boston, Mass., until 12 o'clock M. of Tuesday, July 7, 1903. Plans can be seen and specifications and forms of contract can be obtained at 20 Beacon St., fifth floor. The Commission reserves the right to reject any and all bids, and reserves the right to award the contract as it deems for the best interest of the City of Boston. GEORGE G. CROCKER, Chairman; CHARLES H. DALTON, THOMAS J. GARGAN, GEORGE F. SWAIN, HORACE G. ALLEN, Boston Transit Commission; HOWARD A. CARSON, Chief Engineer; B. LEIGHTON BEAL, Secretary. 25-3t

Proposal Advertisements

EXPERIENCE—LOWER PRICES

"Money saving" advertisements calling for bids in Engineering News for June 4.

Take notice that the entire contracting field is covered.

	Inches.	No. of Advt.
Bonds, Public Improvement....	1¾	1
Bridges and Masonry Work	13	5
Buildings, Jails....	10	6
Harbor and River Work.....	10	10
Electric Light and Power.....	4	1
Paving, Road Work.....	91	18
Sewerage.....	25	7
Water Works, Wells, Pumps and Supplies.....	18	8
Garbage Disposal, St. Cleaning.	2½	1

Besides the above, bids have recently been asked through Engineering News, for Tunnels, Manufacturing Plants, Steam Shovel Work, Conduits, Dams, Drainage, Locks, Railway Work, Chimneys, Cement, Sand, Pipe, etc.

Advertise all Municipal, County and Large Private Work in Engineering News

For Proposals see pages XXXI., XXXII. of Advertisements and pages 368, 369 of Supplement.

ADVERTISERS' CLASSIFIED DIRECTORY.

CONTINUED ON PAGE 159.

Agencies.
Moore, J D, 45 Liberty st, New York

Air Brakes.
Westinghouse Air Brake Co, Pittsburg, Pa

Air Compressors.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Air Compressor Wks, 26 Cortlandt st, N Y
American Well Works, Aurora, Ill
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 2212-17 Herman bldg, Milwaukee
Clayton Air Compressor Works, 114 Liberty st, N Y
Contractors' Equip Co, 447 W 5th st, Kansas City, Mo
d'Auria Pumping Engine Co, Drexel bldg, Phila
Fairbanks, Morse & Co, Chicago
General Pneumatic Tool Co, Montour Falls, N Y
Gray-Blaisdell Co, Bradford, Pa
Guild & Garrison, 86 10th st, Brooklyn, N Y
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati O
McGowan, John H, Co, Cincinnati, O
McKiernan Drill Co, 170 Broadway N Y
Minneapolis Steel Mach'y Co, Minneapolis, Minn
Norwalk Iron Works, So. Norwalk, Conn
Rand Drill Co, 128 Broadway, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa

Air Drill.
Columbus Pneumatic Tool Co, Columbus, Ohio
Contractors' Equip Co, 447 W 5th st, Kansas City, Mo

Air Hose Couplers.
Clark Co, W J, Salem, Ohio

Aluminum.
Pittsburg Reduction Co, Pittsburg, Pa

Annealing Boxes.
McNeil, Jas. & Bro, 29th & Railroad sts, Pittsburg, Pa

Artesian Wells.
Bacon Air Lift Co, 160 Broadway, New York
Cole Bros, 102 Fulton st, New York
Conlan, P H & J, Newark, N J
Cook Well Co, St. Louis, Mo.
Gregory, Elisha, 125 Liberty st, New York
Phillips & Worthington, 11 Broadway, New York
Stothoff Bros, Flemington, N J
Williams Bros, Ithaca, N Y

Artesian Well Tools and Supplies.
Star Drilling Mach Co, 104 Fulton st, New York

Asphalt.
Commercial Asphalt Co, 11 Broadway, New York
Sicilian Asphalt Paving Co, Times bldg, New York
Warren Bros Co, 95 Federal st, Boston

Asphalt Machinery.
Cummer, F D, & Sons, Cleveland, O.
Erie Machine Shops, Erie, Pa
Iroquois Iron Works, Buffalo, N Y

Batteries (Storage).
Coho & Co, H B, 114 Liberty st, New York

Bearings (Ball and Roller.)
Ball Bearing Co, 2622 Market st, Philadelphia
Bantam Mfg Co, Bantam, Conn
Standard Roller Bearing Co, Philadelphia

Bearings (Oilless)
North American Metaline Co, Long Island City, N

Balances. (Assay and Analytical.)
Ainsworth, Wm. & Sons, Denver, Colo

Belt Dressing.
Dixon, Jos., Crucible Co, Jersey City, N J
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Canvas.)
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Chain)
Aultman Co, Canton, O
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Philadelphia

Belt Lacing. (Steel.)
Bristol Co, Waterbury, Conn

Blast Furnaces.
Girard Boiler & Mfg Co, Girard, O
Means & Fulton Iron Works, Birmingham, Ala
Riter-Conley Mfg. Co, 55 Water st, Pittsburg, Pa

Blocks and Sheaves.
American Hoist & Derrick Co, St Paul, Minn
Boston & Lockport Blk. Co, 160 Commercial st, Boston
Hunt, C W Co, Richm'd Terrace, W N Brighton, S I
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
Yale & Towne Mfg Co, 9-13 Murray st, New York

Blowers.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Connersville Blower Co, Connersville, Ind
Mass. Fan Co, Waltham Mass
Roots, P H & F M Co, Connersville, Ind
Sturtevant, B F Co, Boston, Mass

Blue Printing Apparatus.
Elliott Electric Blue Print Co, Pittsburg.
Emerson Mfg. Co, F W, Rochester, N Y
Keuffel & Esser Co, 127 Fulton st, New York
Pittsburg Blue Print Co, 1808-C Park bldg, Pittsburg
Soltman, E G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston

Blue Print Paper.
Elliott Electric Blue Print Co, Pittsburg
Keuffel & Esser, 127 Fulton st, New York
Soltman, E,G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston
(see also Instruments, Engineering, etc.)

Boiler Supplies.
Glasgow Iron Co, Pottstown, Pa

Boilers.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bacon, Earle C, 26 Cortlandt st, New York
Columbiana Boiler Co, Columbiana, Ohio
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Fairbanks, Morse & Co Chicago
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Works, East Boston, Mass
Iroquois Iron Works, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego, N Y
Leffel, Jas. & Co, Springfield, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
McNeil, Jas. & Bro, 29th & Railroad sts, Pittsburg
Means & Fulton Iron Works, Birmingham, Ala
Mundy, J S, Newark, N J
Petroleum Iron Wks Co, Washington, Pa
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Sharon Boiler Works, Sharon, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Variety Iron Works Co, Cleveland, Ohio
Warren City Tank & Boiler Works, Warren, O

Boilers (Water Tube.)
Babcock & Wilcox Co, 29 Cortlandt st, New York
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Keeler, R, Co, Williamsport, Pa

Bolt Clippers.
Heinig Mfg Co, St. Paul, Minn

Bolts. (Expansion.)
Church, Isaac, Toledo, O
Steward & Somaine Mfg Co, 120 N 6th st, Phila

Boots and Shoes.
Putman, H J, & Co, 38 Bridge sq, Minneapolis

Brakes.
Brill, J G Co, Philadelphia, Pa
(see also Air Brakes.)

Brass Rolling Machinery.
Poole, Robert, & Son Co, Baltimore, Md

Brick.
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Egyptian Silica Brick Process Co, Fredericksburg, Va
Jackson, John H, Albany, N Y
Johansenburg Vit Brick Co, Johnsonburg, Pa
Mack Mfg Co, New Cumberland, West Virginia
McAvoy Vit Brick Co, 1545 Arch st, Philadelphia
Purington Paving Brick Co, Galesburg, Ill
Tonkins, Calvin, 130 Liberty st, New York
Western Brick Co, Danville, Ill

Brick. (Fire.)
Maurer, Henry, & Son, 422 E 23d st, New York
New York Pottery Co, 12th ave & 36th st, N Y
Syracuse Stoneware Co, Syracuse, N Y

Brick Bond
Union Brick Bond Co, Pittsburg, Pa

Brick Machinery.
Bonnot Co, Canton, Ohio
Drake, C T, 300 W Jackson Boulevard Chicago

Bridge (Concrete).
Aberthaw Construction Co, Boston, Mas

Bridge Operating Machinery.
Edwards, Jos. & Co, 414 Water st, New York
Vulcan Iron Works, Chicago

Bridge Railings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia, Pa
King Bridge Co, Cleveland, O
Massillon Bridge Co, Massillon, Ohio
Stupp Bros, Bridge & Iron Co, St. Louis, Mo

Bridges and Buildings.
American Bridge Co, New York
Baltimore Bridge Co, Bush st & B & O R R, Baltimore
Bellefontaine Bridge & Iron Co, Bellefontaine, Ohio
Berlin Construction Co, Berlin, Conn
Boston Bridge Works, 47 Winter st, Boston, Mass
Champion Bridge Co, Wilmington, Ohio
Chicago Bridge & Iron Co, Chicago
Clinton Bridge & Iron Works, Clinton, Iowa
Columbia Bridge Co, Pittsburg
Concrete-Steel Engineering Co, Park Row bldg N
Easton Foundry & Machine Co, Easton, Pa
Eichleay, Jr., & Co., John, Pittsburg, Pa
Fort Pitt Bridge Works, Pittsburg, Pa
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Joliet Bridge & Iron Co, Joliet, Ill
Kenwood Bridge Co, First Nat. Bank bldg, Chicago
King Bridge Co, Cleveland, Ohio
Massillon Bridge Co, Massillon, Ohio
McClintic-Marshall Construction Co, Pottstown, Pa
Minneapolis Steel Machinery Co, Minneapolis, Minn
Mo. Valley Bridge & Iron Works, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, Ohio
New Castle Bridge Co Indianapolis
New England Structural Co, Boston, Mass
Parker, I A, 202-208 North First st, Terre Haute Ind
Passaic Rolling Mill Co, Paterson, N J
Penn Bridge Co, Beaver Falls, Pa
Pennsylvania Steel Co, Steelton, Pa
Phœnix Bridge Co, Phœnixville, Pa
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Rogers Iron Co, Springfield, O
San Francisco Bridge Co, 220 Market st, San Franc
Scaife, W B, & Sons Co, Pittsburg, Pa
Shoemaker, Lewis F, & Co, Harrison bldg, Pa
Standard Bridge Co, Omaha
Strobel, C L, Monadnock block, Chicago, Ill
Stupp Bros. Bridge & Iron Co, St. Louis, Mo
Vaile & Young, Baltimore, Md
Variety Iron Works Co, Cleveland, Ohio
Virginia Bridge & Iron Co, Roanoke, Va
Wabash Bridge & Iron Works, Wabash, Ind
Youngstown Bridge Co, 320 Broadway, New York

Bridges (Rolling Lift.)
Scherzer Rolling Lift Bridge Co, Chicago

Buckets (Automatic.)
Brown Hoisting Machinery Co, Cleveland
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Stuebner, G L, Long Island City, N Y
Union Iron Works, Hoboken, N J

Buckets (Elevator).
Clark Co, W J, Salem, Ohio

Building Blocks (Concrete)
Palmer Hollow Concrete bldg Block Co, Wash, D C.

Bumping Posts.
McCord & Co, 1445 Old Colony bldg, Chicago
Mechanical Mfg Co, Chicago

Bunkers (Suspension.)
Berquist, A S, 515 Bedford ave, Brooklyn, N Y

Burners (Oil.)
Hammel, C A, 120 Fifth st, Los Angeles, Cal

Cableways (Suspension.)
Bacon, Earle C, 26 Cortlandt st, New York
Beatty M, & Sons, Welland, Ont
Broderick & Bascom Rope Co, St. Louis
Carson Trench Machine Co, 19 Dorrance st, Boston
Flory, S, Mfg Co, Bangor, Pa
Lambert Hoisting Engine Co, Newark, N J
Leschen, A, & Sons Rope Co, St. Louis
Lidgerwood Mfg Co, 96 Liberty st, New York
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
N. J. Foundry & Machine Co, 9 Murray st, N Y
Trenton Iron Co, Trenton, N J
United Telpherage Co, 30-32 Broad st, New York

Calking Yarn and Tools.
Ogden, J. Edward, Co, 149 Cedar st, New York

Car Couplers.
McConway & Torley Co Pittsburg, Pa
Railroad Supply Co, Bedford bldg, Chicago

Car Heating and Lighting.
Brill Co, J G, Philadelphia, Pa
Safety Car Heating & Lighting Co, 160 B'way, N Y

Car Trucks.
Brill, Co, J G. Philadelphia, Pa

Car Wheels.
Brill Co, J G, Philadelphia, Pa
Cayuta Wheel & Foundry Co, Sayre, Pa
Ramapo Iron Works, Hillburn, N Y

Cars (Dump, Plantation, Flat, Hand, Logging Mining and Freight.)
Apex Equipment Co, 11 Broadway, New York
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G. Co, Philadelphia, Pa
Commercial Ry Equipment Co, 120 Liberty st, N Y
Continental Equipment Co, 5-17 Battery Place, N Y
Fairbanks, Morse & Co, Chicago
Goldsby Auto. Car Co, Chemical bldg, St. Louis
Koppel, Arthur, 68 Broad st, New York
National Drill & Mfg Co, 159 La Salle st, Chicago
Pressed Steel Car Co, Pittsburg, Pa
Ramapo Iron Works, Hillburn, N Y
Standard Steel Car Co, Frick bldg, Pittsburg
Steubner, G L, 176 Third st, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Narrow Gage.)
Brill, J G Co, Philadelphia, Pa
Hunt, C W, Co, Richmond Terrace, W N Brighton, N Y
Koppel, Arthur, 68 Broad st, New York
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Passenger & Freight.)
Brill, J G, Co, Philadelphia, Pa
Koppel, Arthur, 68 Broad st, New York

Cars (Wrecking & Ditching.)
Bucyrus Co, S. Milwaukee, Wis
Case Mfg Co, Columbus, O
Osgood Dredge Co, 37 State st, Albany N Y

Castings (Brass.)
Campbell, J B, Brass Works, Cascade st, Erie Pa

Castings (Iron.)
Builders Iron Foundry, Providence, R I
Brooks, T H, & Co, Cleveland, O
Coldwell-Wilcox Co, Newburg, N Y
Columbia Machine Works, 247 Chestnut st, Brooklyn
Dimmick Pipe Co, Birmingham, Ala
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Du Bois Iron Works, Du Bois, Pa
Easton Foundry & Machine Co, Easton, Pa
Fox, John & Co, 258 Broadway, N Y
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas. & Son Co, Genesee st, Utica, N Y
Poole, Robert, & Son Co, Baltimore, Md
Reading Foundry Co, Ltd, Reading, Pa
Sessions Foundry Co, Bristol, Conn
Variety Iron Works Co, Cleveland, O
Warren Foundry & Machine Co, 160 Broadway, N Y
(see also Sewer and Street Castings)

Cement (Portland.)
Alpha Portland Cement Co, Easton, Pa
Alsen's Am Portland Cement Wks, 45 Broadway, N Y
American Cement Co, 22 S 15th st, Philadelphia, Pa
Atlas Portland Cement Co, 30 Broad st, New York
Buckeye Portland Cement Co, Bellefontaine, Ohio
Coplay Cement Mfg Co, 1123 Broadway, N Y
Empire Portland Cement Co, Warners, N Y
Fredenburg & Lounsbury, Metropolitan bldg, N Y
French, Samuel H, & Co, Philadelphia
General Supply & Construct'n Co, 8-10 Bridge st, N
Glens Falls Portland Cement Co, Glens Falls, N Y
Hartranft, Wm G, Cement Co, Philadelphia
Heidelberg Cement Co, Albany, N Y
Illinois Steel Co, Rookery, Chicago
Kelley Island Lime & Transport Co, Cleveland, Ohio
Lawrence Cement Co, 1 Broadway, New York
Lehigh Portland Cement Co, Allentown, Pa
Sinclair & Babson, 45 Broadway, New York
Snyder, Hiram, & Co, 229 Broadway, New York
St Louis Portland Cement Co, St Louis
Thorn Cement Co, 112 Church st, Buffalo, N Y
Vulcanite Portland Cement Co, 160 Fifth ave, N Y
Warner, Chas, Co, Wilmington, Del

Cement (Rosendale.)
Consolidated Rosendale Cem. Co, 26 Cortlandt st, N Y
Coplay Cement Mfg Co, 1123 Broadway, N Y
Cumberland (Md.) Cement & Mfg Co, P O Box 264
Meacham & Wright, Chamber of Commerce, Chicago
Milwaukee Cement Co, Milwaukee, Wis
Snyder, Hiram, & Co, 229 Broadway, New York
Tonkins, Calvin, 130 Liberty st, New York
Union Akron Cement Co, 141 Erie st, Buffalo, N Y
Western Cement Co, Louisville, Ky

Cement Kilns and Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bartlett, C O, & Snow Co, Cleveland, Ohio
Bonnot Co, Canton, Ohio
Bradley Pulverizer Co, 95 State st, Boston, Mass
Clark, J C, Box 525, Atlanta, Ga
Dodge Mfg Co, Mishawaka, Indiana
Kent Mill Co, 170 Broadway, New York
Jeffrey Mfg Co, Columbus, Ohio
Smidth, F L, & Co, 66 Maiden Lane, New York
Sturtevant Mill Co, 106 Clayton st, Boston
Vulcan Iron Works, Wilkesbarre, Pa
West Pulverizing Mach. Co, Jersey City, N J

Cement Mixer.
Alexander Iron Works, Syracuse, N Y

Chain Blocks.
Yale & Towne Mfg Co, 9-13 Murray st, New York

Chains.
Newhall Chain Forge & Iron Co, 9 Murray st, N Y

Channelers.
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago, Ill

Chemists.
McKenna, Chas. F, 221 Pearl st, N Y
(see also Laboratories.)

Chimneys. (Brick.)
Custodis, A, Chimney Const'n Co, Bennett bldg, N Y

Coal and Ore Handling Machinery.
Aultman Co, Canton, Ohio
Bacon, Earle C, 26 Cortlandt st, New York
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Brown Hoisting Machinery Co, Cleveland, O
Exeter Machine Works, Pittston, Pa
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, Ohio
King Bridge Co, Cleveland, Ohio
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, N Y
Link Belt Engineering Co, Nicetown, Phila
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, New York
N. J. Foundry & Machine Co, 9 Murray st, New York
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Robins Conveying Belt Co, 14-21 Park Row, N Y
Simpson, H S, Electric bldg, Cleveland
Steubner, G L, 175 Third st, Long Island City, N Y

Colleges (Engineering.) (see page IV.)

Concentrators.
Allis-Chalmers Co. Home Ins bldg, Chicago

Concrete Mixers.
Clyde Iron Works, Duluth, Minn
Cockburn Barrow & Mach. Co, Jersey City, N J
Contractors' Equip Co. 447 W. 5th st, Kansas City, M
Contractor's Plant Co, 37 Pittsburg st, Boston
Contractors' Supply & Equip. Co, 232 5th av, Chicago
Drake, C T, 300 W Jackson Boulevard, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Iroquois Iron Works, Buffalo
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
McKelvey Concrete Mach'y Co, Security bldg, Chicago
Municipal Eng & Contr'g Co, Manhattan bldg, Chicago
Ransome Concrete Mach'y Co, 11 Broadway, N Y

Concrete Building Apparatus.
Farrell, Thos C, Washington, New Jersey

Concrete Steel Construction
Aberthaw Con. Co, 12 Beacon st, Boston, Mass
Concrete Steel Eng. Co, Park Row Bldg, N Y
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
St. Louis Exp. Metal Co, St. Louis, Mo.
Turner Cons. Co, 11 Broadway, N Y

Condensers.
Alberger Condenser Co, 95 Liberty st, N Y
Allis-Chalmers Co, Home Ins bldg, Chicago
Davidson M T, 58 Keap st, Brooklyn, N Y
Dean Bros, Steam Pump Works, Indianapolis, Ind
Epping-Carpenter Co, Pittsburg
Guild & Garrison, 86 10th st, Brooklyn, N Y
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Conduits (Pipe.)
Blackmer & Post Pipe Co, St. Louis, Mo
Eppinger & Russell Co, 66 Broad st, New York
Field, C J, 29 Broadway, New York
Standard Vitrified Conduit Co, 39 Cortlandt st, N Y
Standard Sewer Pipe Co, Rochester, N Y
Wyckoff Pipe & Creosoting Co., Stamford, Conn

Contractors.
Abbot-Gamble Contracting Co, St. Louis and N Y
American Pipe Mfg Co, 112 N Broad st, Philadelphia
Bates & Rogers Const'n Co, 1208 Manhattan bldg, Chic
Cook Well Co, St. Louis, Mo
Eastern Construction Co, 48 Classon ave, Brooklyn, NY
Eichleay, John, Jr, Co, Pittsburg
Eason, W A, 1137 Rock Exchange bldg, Chicago
Foundation & Contracting Co, 37 Nassau st, New York
Gahagan, W H, 189 Montague st, Brooklyn, N Y
Gest, G M, Cincinnati and New York
Gilbreth, Frank B, 176 Federal st, Boston
Gillespie, T A, Co, Westinghouse bldg, Pittsburg, Pa
McCabe, Jas. F, 504 Equitable bldg, Baltimore, Md
McMullen, Arthur & Co, 13-21 Park Row bldg, N Y
Murphy, J M & Co, Windsor Arcade, N Y
O'Rourke, John F, Park Row bldg, New York
Phillips & Worthington, 11 Broadway, New York
Quigley, R M, & Co, Laclede bldg, St. Louis, Mo
Regan & Mulock, D P, 4429 Chestnut st, Philadelphia
Smith & Robinson, 8-10 Bridge st, New York
Snare & Priest, 39 Cortlandt st, New York
United Eng & Con Co, 13-21 Park Row, New York
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)

Contractors' Tools and Supplies.
Bond, H L, & Co, Pearl & Purchase sts, Boston, Mass
Contractors' Equip Co, 447 W 5th st, Kansas City, M
Crane & Co, Inc, A M, The Rookery, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Kennedy & Co, L. E., 17 Broadway, New York
Maxfield, H E, & Co, 136 Liberty st, New York
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Standard Supply & Equipment Co, Philadelphia
Wickes Bros New York and Saginaw, Mich

Conveyors. (See Hoisting and Conveying Machinery; also see Trench Machines.)

Cooling Towers.
Alberger Condenser Co, 95 Liberty st, New York
Davidson, M T, 58 Keap st, Brooklyn, N Y
Worthington, Henry R, Brooklyn, N Y

Cranes.
Am. Hoist & Derrick Co, St. Paul, Minn
Brown Hoisting Machinery Co, Cleveland, O
Bucyrus Co, S Milwaukee, Wis
Case Mfg Co, Columbus, Ohio
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Industrial Works, Bay City, Mich
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Manning, Maxwell & Moore, 85 Liberty st, New York
Marion Steam Shovel Co, Marion, Ohio
Niles Tool Works Co, 136-138 Liberty st, New York
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Wood, R D, & Co, Philadelphia, Pa

Cranes (Portable).
North Penn Iron Co, 3d & Sedgley ave, Philadelphia

Creosoting.
American Creosote Works, New Orleans
Atlantic Creo & Wood Pres Works, Norfolk, Va
Carbolineum Wood Preserving Co, 13 Park Row, N Y
Eppinger & Russell Co, 66 Broad st, New York
International Creosoting & Con. Co, Galveston, Tex
New Orleans Wood Pres Works, New Orleans, La
Norfolk Creosoting Co, Norfolk, Va
Southern Creosoting Co, Slidell, La
U S Wood Preserving Co, 29 Broadway, New York
West Pascagoula Creosote Wks, W Pascagoula, Miss
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Crucibles.
Dixon, Jos., Crucible Co, Jersey City, N J

Damper Regulators.
d'Este, Julian Co, 15 Canal st, Boston

Derrick and Derrick Fittings.
American Hoist & Derrick Co, St. Paul, Minn
Byers, John F, Machine Co, Ravenna, Ohio
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Dobbie Foundry & Machine Co, 138 Dey st, N Y
Hayward Co, 97 Cedar st, New York
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
Lambert Hoisting Engine Co, Newark, N J

Diamond Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago

Differential Hoists.
Boston & Lockport Block Co, Boston, Mass

Ditching and Excavating Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, S. Milwaukee, Wis
Carson Trench Machine Co, 16 Dorrance st, Boston
Hayward Co, 97 Cedar st, New York
Marion Steam Shovel Co, Marion, Ohio
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, 12 Post Office Square, Boston
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago
Vulcan Iron Works Co, Toledo
Western Wheeled Scraper Co, Aurora, Ill

Diver.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill

Diving Apparatus.
Morse, Andrew J, & Son, 140 Congress st, Boston
Schrader's, A, Son, 32 Rose st, New York

Docks (Composite and Steel Floating).
Crandall, H I, & Son Co, East Boston, Mass

Doors and Door Fittings.
Kinnear Mfg Co, Columbus, Ohio
N. J. Foundry & Machine Co, 9 Murray st, N Y
Wilson, J Godfrey, 3 W 29th St, N Y

Drafting Tables.
Emerson Mfg. Co, F W, Rochester, N Y
Hein Furniture Co, Toledo, O

Draftsmen's Supplies. (see Instruments.

Drain Tile (see Pipe, Vitrified Clay.)

Dredging and Dredging Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bowers, A B. San Francisco, Cal
Bucyrus Co, S Milwaukee, Wis
Edwards, Jos., & Co, 414 Water st, New York
Ellicott Machine Co, Baltimore, Md
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicago
Hayward Co, 97 Cedar st, New York
Lawrence Machine Co, Lawrence, Mass
Marion Steam Shovel Co, Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J S, Newark, N J
Osgood Dredge Co, Albany, N Y
Smith & Robinson, 8-10 Bridge st, New York
Smith, Theo., & Bro, Jersey City, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works Co, Toledo

Drilling and Boring Machines (Portable).
Contractors' Equip Co, 447 W 5th st, Kansas City, Mo
Knight Mfg Co, Canton, Ohio
Philadelphia Pneumatic Tool Co, Philadelphia
Stow Flexible Shaft Co, 26th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y
(see also Pneumatic Tools.)

Drills (Rock).
American Diamond Rock Drill Co, 95 Liberty st, N Y
Davis Calyx Drill Co, 128 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
McKiernan Drill Co, 170 Broadway, New York
Rand Drill Co, 128 Broadway, New York
Rogers, John M, Gloucester City, N J
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Wood Drill Works, 30 Dale ave, Paterson, N J

Drill Sharpeners
Hendrie & Bolthoff Mfg & Sup. Co, Denver, Colo.

Drop Forgings.
Keystone Drop Forge Wks, 2001-63 Clearfield st, Phila

Drop Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Dry Docks (Marine Railway).
Crandall, H I, & Son Co, East Boston, Mass

Dryers (Cement).
American Process Co, 62 William st, New York
Bartlett, C O, & Snow Co, Cleveland, O
Crown Dryer Co, 129 Euclid ave, Cleveland
Cummer, F D, & Son Co, Cleveland, O
Ruggles Coles Engineering Co, 41 Cortlandt st, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
West Pulverizing Machine Co, Jersey City, N J

Dynamite (see Explosives).

Dynamos.
C & C Electric Co. Central R R bldg, New York
Coho & Co, H B, 114 Liberty st, New York
General Electric Co, Schenectady, N Y
Storey Motor & Electric Co, Harrison, N J
Stow Mfg Co, Binghamton, N Y
Westinghouse Electric & Mfg Co, Pittsburg, Pa

Economizers (Fuel).
Green Fuel Economizer Co, Matteawan, N Y
Broomell, Schmidt & Steacy Co, York, Pa

Electric Storage Batteries.
Electric Storage Battery Co, Philadelphia

Elevators.
Marine Engine & Machine Co, 1123 Broadway, N Y
Morse Elevator Works, Philadelphia
Otis Elevator Co, 71 Broadway, N Y

Employment Bureaus.
Brotherhood Steam Shovel & Dredge Engrs., Chicago
Cleveland Engineering Agency, Box 71, Sta. B, Cleve
Engineering Agency, Monadnock blk, Chicago, Ill
Engineering Employment Bureau, Syracuse N Y
Hapgood Bureau, 257 Broadway, N Y
New York Engineering Agency, 35 Warren st, N Y
Yuzzolino, W, 73 Murray st, New York

Engines. (Gas and Gasoline).
American Well Works, Aurora, Ill
Backus Water Motor Co, Newark, N J
Chase Machine Co, Cleveland
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Fairbanks, Morse & Co, Chicago, Ill
Maxfield, H E, & Co, 136 Liberty st, New York
Mietz & Weiss, 128 Mott st, New York
New Era Iron Work Co, 37 Dale ave, Dayton, O
Otto Gas Engine Works, Philadelphia, Pa
Snow, T W, (Otto Engine) 380 Dearborn st, Chicago
Springfield Gas Engine Co, Springfield, O
Temple Pump Co, 18th Place, Chicago
U. S. Wind Eng. & Pump Co, 20 Water st, Batavia, Il
(see also Engines, Oil.)

Engines (Hoisting).
American Hoist & Derrick Co, St. Paul, Minn
Bacon, Earle C, 26 Cortlandt st, New York
Beatty, M, & Sons, Welland, Ont
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F., Machine Co, Ravenna, Ohio
Chase Machine Co, Cleveland
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Fairbanks, Morse & Co, Chicago, Ill

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Flory, S. Mfg Co, Bangor, Pa
Hunt, C W., Co, Richmond Terrace, W N Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, New York
Monighan's Machine Works, 818 Carroll ave, Chicago
Mundy, J S, Newark, N J
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind
Rawson & Morrison Mfg Co, Cambridgeport, Mas
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa
(see also Electric Hoists.)

Engines (Marine).
Buffalo Forge Co, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego N Y
Morris Machine Works, Baldwinsville, N Y
Otto Gas Engine Works, Philadelphia, Pa

Engines (Oil)
Aultman Co, Canton, Ohio
Mietz & Weiss, 128 Mott st, New York

Engines (Portable).
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Port Huron Engine Co, Port Huron, Mich

Engines (Steam).
Allis-Chalmers Co, Home Ins bldg, Chicago
Buffalo Forge Co, Buffalo, N Y
Erie Pump & Engine Co, Erie, Pa
Fairbanks, Morse & Co, Chicago
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicag
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Lawrence Machine Co, Lawrence, Mass
Leffel, Jas, & Co, Springfield, O
Maxfield, H E, & Co, 136 Liberty st, New York
Minneapolis steel Mach'y Co, Minneapolis, Minn
Morris Machine Works, Baldwinsville, N Y
Southwark Foundry & Machine Works, Philadelphia
Sturtevant, B F, Co, Boston, Mass
Struthers, Wells & Co, Warren, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre Pa

Engines (Traction).
Aultman Co, Canton, O
Heisler, Chas. L, Erie, Pa
Kelly, O S. Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich

Excavators and Excavating Machinery
(see Ditching and Excavating Machinery and Steam Shovels.)

Exhaust Heads
Burt Mfg. Co, Akron, O

Expanded Metal.
Assoc Exp Metal Cos, Room 1209, 256 Broadway, N Y
General Fireproofing Co, Youngstown, O
Truss Metal Lath Co, 40 Gold st, New York
Youngstown Iron & Steel Roofing Co, Youngstown, O

Explosives.
Explosives Mfg Co, Elmira, N Y
Electric Exploder Co, 120 Liberty st, N Y
Kirk, Arthur & Son, Co, 910 Duquesne Way, Pittsburg

Faucets.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Feed Water Heaters.
Allis-Chalmers Co, Home Ins bldg, Chicago
Erie Machine Shops, Erie, Pa
Gem City Boiler Co, Dayton, O
Green Fuel Economizer Co, Matteawan, N Y
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Patterson, Frank L, & Co, 25 Church st, New York
Robertson, Jas. L, & Sons 192 Fulton st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O

Feed Water Purifiers.
Industrial Water Co, 126 Liberty st, New York
Pittsburg Filter Mfg Co, Pittsburg, Pa
Smith, W B, Perth Amboy, N J

Fencing. (Wire).
American Steel & Wire Co, New York & Chicago
International Fence & Fireproofing Co, Columbus, O
Lamb Wire Fence Co Adrian, Mich

Filiet. (Leather).
Butler, A G, 284 Pearl st, New York

Filing Cases.
Art Metal Construction Co, Jamestown, N Y
General Fireproofing Co, Youngstown, O

Filter Presses.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Filters.
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Deutsch, W M, 141 Broadway, N Y
Jackson Filter Mfg Co, St Louis
Loomis-Manning Filter Co, Philadelphia, Pa
N Y Continental-Jewell Co, 15 Broad st, N Y
Norwood Engineering Co, Florence, Mass
Pittsburg Filter Mfg Co, Pittsburg, Pa
Ross Valve Co, Troy, N Y
Scaife, Wm. B, & Sons Co, Pittsburg

Filters (Oil).
Burt Mfg Co, Akron, O
Robertson, Jas L, & Sons, 92 Fulton st, New York

Fire Department Supplies.
Morse, Andrew J, & Son, 140 Congress st, Boston, Mass

Fire Proofing.
Aberthaw Construction Co, Boston, Mass
Berger Mfg Co, Canton, O
Brosley, A H, Jr, 112 N Broad st, Philadelphia
Hennebique Patents 1123 Broadway, N Y
Metropolitan Fire Proofing Co, Trenton, N J
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
Roebling Construction Co, 121 Liberty st, New York
St Louis Expanded Metal Fireproofing Co, St Louis
Wight, W N, & Co, 160 Fifth ave, New York
(see also Expanded Metal, also Concrete Steel Construction.)

Fire Proofing (Hollow Tile).
Maurer, Henry & Sons, 422 E 23d st, New York

Fire Proofing (Wood).
Electric Fireproofing Co, 19th st, and East River, N Y

Fittings (Flanged).
McLeod Co, 95 Liberty st, New York

Flexible Pipe Joint.
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Flexible Shafts.
Stow Flexible Shaft Co, 16th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y

Flue Lining (Fire Clay).
Jackson, John H, Albany, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th sts, N Y

Flush Tanks.
Pacific Flush Tank Co, 48 La Salle st, Chicago Ill

Fly Wheels.
Poole, Robert, & Son Co, Baltimore, Md

Forges (Portable).
Buffalo Forge Co, Buffalo, N Y
Roots, P H & F M, Co, Connersville, Ind
Tate, Jones & Co, Pittsburg Pa

Forgings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Baker, Jas H, Mfg Co, 503 Park bldg, Pittsburg, Pa
Brill, J G, Co, Philadelphia, Pa
Cleveland City Forge & Iron Co, Cleveland
Keystone Drop Forge Wks, 2001-63 Clearfield st, Phila
Pennsylvania Steel Co, Steelton, Pa

Friction Clutches.
Brown Hoisting Machinery Co, Cleveland
Dodge Mfg Co, Mishawaka, Indiana
Link Belt Engineering Co, Nicetown, Philadelphia
Smith, S Morgan, Co, York, Pa

Frogs, Switches and Crossings.
Elliot Frog & Switch Co, East St. Louis, Ill
Koppel, Arthur, 66-68 Broad st, N Y
N Y Switch & Crossing Co, Hoboken, N J
Pennsylvania Steel Co, Steelton, Pa
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Fuel Economizers (see Economizers).

Furnaces (Gas).
American Gas Furnace Co, 23 John st, New York

Furnaces (Oil).
Petroleum Iron Works, Washington, Pa
Tate, Jones & Co, Empire bldg, Pittsburg

Furniture (Steel).
General Fireproofing Co, Youngstown, O

Gages (Steam).
Crosby Steam Gage & Valve Co, Boston

Galvanized Iron and Steel.
Am Sheet Steel Co Battery Park bldg, New York

Galvanizing Kettles.
Columbiana Boiler Co, Columbiana, Ohio
Enterprise Boiler Co, Youngstown, Ohio

Garbage Dump Carts (see Wagons and Carts).

Garbage Furnace.
Morse-Boulger Destructor Co, 39 Cortlandt st, N Y
Smith-Siemens Garbage Furnace, 141 Broadway, N Y

Gas Exhausters.
Connersville Blower Co, Connersville, Ind

Gas Fittings.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Gas Holders.
Wood, R D, & Co, 400 Chestnut st, Philadelphia
(see also Stand-Pipes and Tanks.)

Gas Machinery.
American Gas Furnace Co, 23 John st, New York
Gas Machinery Co, Cleveland, O
National Drill & Mfg Co, Chicago, Ill
Norwalk Iron Works, South Norwalk, Conn
Roots, P H, & F M, Co, Connersville, Ind
Wood, R D, & Co, Philadelphia, Pa

Gas Works.
Gas Machinery Co, Cleveland, Ohio

Gaskets.
McCord & Co, 1445 Old Colony bldg, Chicago
U. S. Mineral Wool Co, 143 Liberty st, New York

Gates (Railway).
International Fence & Fireproofing Co, Columbus, O
Pneumatic Signal Co, 1122 Broad-Exchange bldg, N Y

Gearing.
Caldwell, H W, & Son Co, Chicago
Morse Elevator Works, Philadelphia
Poole, Robert, & Son Co, Baltimore, Md
Smith S. Morgan, Co, York, Pa

Gear-Wheels.
Taylor Iron & Steel Co, High Bridge, N J

Gloves (Hand Made).
Luther, J P, Glove Co, 526 Pearl St, Berlin, Wis

Governors (Water-Wheel).
Lombard Governor Co, 36 Whittier st, Boston
Replogle Governor Works, Chestnut st, Akron, O

Graders.
Austin Mfg Co Manhattan bldg, Chicago
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Grain Elevators (see Tanks, grain storage.)

Granite (see Stone, also Paving Blocks).

Graphite.
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos., Crucible Co, Jersey City, N J
Goheen Mfg Co, Canton, Ohio
Internat'l Acheson Graphite Co, Niagara Falls, N Y

Grate Bars.
Dobbie Foundry & Mach Co, 138 Dey st, N Y
Robertson, Jas L, & Sons, 192 Fulton st, New York

Greenhouses.
Plenty, Josephus, Jersey City, N J

Hanger (Joist).
Clark Co, W J, Salem, Ohio
Columbian Hardware Co, Cleveland, Ohio
Duplex Hanger Co, Cleveland, Ohio

Headlights (Locomotive).
Brill, J G, Co, Philadelphia
Dressel Ry Lamp Works, 3876 Park ave, New York
Railroad Supply Co, Bedford bldg, Chicago

Heating and Ventilating (Steam & Hot Water
American Blower Co, Detroit
Am. District Steam Heating Co, Lockport, N Y
Keeler, E, Co, Williamsport, Pa
Mass. Fan Co., Waltham, Mass

Hoisting Engines (see Engines, Hoisting).

Hoisting and Conveying Machinery.
Aultman Co, Canton, O
Beatty, M, & Sons, Welland, Ont
Bartlett, C O, & Snow Co, Cleveland, O
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F, Machine Co, Ravenna, O
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Cresson Co. Geo. V, Philadelphia
Carson Trench Machine Co, Boston, Mass
Contractors' Equip Co, 447 W 5th st, Kansas City, Mo
Dodge Mfg Co, Mishawaka, Indiana
Exeter Machine Works, Pittston, Pa
Garland, M, Co, Bay City, Mich
Hunt, C W, Co, Richmond Terrace, W N Brighton NY
Jeffrey Mfg Co, Columbus, Ohio
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Lambert Hoisting Engine Co, Newark, N J
Link Belt Engineering Co, Nicetown, Philadelphia
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, N Y
Pawling & Harnishfeger, 167 Clinton st, Milwaukee
Robins Conveying Belt Co, 14-21 Park Row, N Y
Trenton Iron Co, Trenton, N J
Union Iron Works, Hoboken, N J
United Telpherage Co, 20-22 Broad st, N Y

Hoists (Electric).
Hunt, C W, Co, Richmond Terrace, WN Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg. Co, 96 Liberty st, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Rawson & Morrison Mfg Co, Cambridgeport, Mass
United Telpherage Co, 20-22 Broad st, New York

Hoists (Pneumatic).
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen. N A, 1212-17 Herman bldg, Milwaukee
General Pneumatic Tool Co, Montour Falls, N Y

Hooks (Hoist, Grab, etc.)
Baker, Jas. H, Mfg Co, 503 Park bldg, Pittsburg
Roebling's, John A. Sons Co, Trenton, N J

Hose (Metal).
Moore Chas. C, & Co, 32 First st, San Francisco

Hose (Rubber).
McKiernan Drill Co, 170 Liberty st, N Y

Hose (Suction).
Edson Mfg Co, 256 Atlantic ave, Boston

Hydrants and Valves.
Bourbon Copper & Brass Works, Cincinnati, O
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Clow, J B & Sons, Lake & Franklin sts. Chicago
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Drummond, M J, & Co, 192 Broadway, N Y
Fox, John & Co, 253 Broadway, N Y
Kennedy Valve Mfg Co, 50 Beekman st, N Y
Loetzer Valve & Mfg Co, Towanda, Pa
Ludlow Valve Mfg Co, Troy, N Y
McLean, John, 298 Monroe st, New York
Millar, Chas. & Son Co, Utica, N Y
Norwood Engineering Co, Florence, Mass
Reading Foundry Co, Ltd, Reading, Pa
Ross Valve Co, Troy, N Y
Smith, A P, Mfg Co, Newark, N J
Thompson, J, & Co, Philadelphia, Pa
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Jacks.
Watson-Stillman Co 210 E. 43d st, New York

Hydraulic Leather Packing.
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Detroit Leather Specialty Co, 900 Michigan av, Detroit

Hydraulic Machinery.
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Deming Co, Salem, Ohio
Pelton Water Wheel Co 134 Main st, San Francisco
Power Specialty Co, 126 Liberty st, New York
Watson-Stillman Co, 210 E 43d st, New York
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Presses.
Power Specialty Co, 125 Liberty st, New York
Watson-Stillman Co, 204 E 43d st, New York
Wood, R D. & Co, 400 Chestnut st, Philadelphia

Hydraulic Rams.
Pelton Water Wheel Co, 134 Main st, San Francisco
Power Specialty Co, 126 Liberty st, New York

Ice and Refrigerating Machinery.
Featherstone Fdy & Mach Co. 348 N Halsted, Chicago

Indicators (Steam Engine).
Ashcroft Mfg Co, 85 Liberty st, New York
Crosby Steam Gage & Valve Co, Boston, Mass
Robertson, Jas L. & Sons, 192 Fulton st, N Y

Injectors.
Hayden & Derby Mfg Co, 85 Liberty st, New York
Lunkenheimer Co. Cincinnati, Ohio

Instruments (Engineering, Drafting).
Ainsworth, Wm, & Sons, Denver Colorado
Albrecht, C. R., 62 Fulton st, New York
Aloe, A S, Co, 414 N Broadway, St. Louis, Mo
Altenedor, Theo, & Sons, 945 Ridge ave, Phila, Pa
Archts' & Engrs' Supply Co, 1011 Walnut st, Kan. City
Beckman, L, 57 Adams st Toledo, Ohio
Berger, C L, & Sons, 37 Williams st, Boston, Mass
Brandis, F E, Sons & Co, 814 Gates ave, Brooklyn, NY
Brown & Sharpe Mfg Co, Providence, R I
Buff & Buff Co, J F Station, Boston, Mass
Dietzgen, Eugene, Co, 181 Monroe st, Chicago
Engineers' Instrument Exchange, Scranton, Pa
Gurley, W & L E, Troy, N Y
Harditmuth, L & C, 49 Barclay st, New York
Heller & Brightly Spring Garden st & Ridge av, Phila
Hetterscheid Mfg Wks, Grand Rapids, Mich
Keuffel & Esser Co, 127 Fulton st New York
Knight, F C, & Co, 400 Locust ave, Philadelphia Pa
Koelsch & Co, 138 Fulton st, New York
Ledder, G G, 382 School st, Boston
Lietz, A, Co, 452 Sacramento st, San Francisco, Cal
Mahn & Co. 309-312 Olive st, St. Louis
Pfister, Herm, 428 Plum st, Cincinnati, O
Prince, L M, 108 West 4th st, Cincinnati, O
Queen & Co, Inc, Philadelphia, Pa
Saegmuller, G N, Washington, D C
Sala, J C, 429 Montgomery st, San Francisco
Schwencke, Kirk & Co, 26 Church st, New York
Soltmann, E G, 123 E 23d st, New York
Stackpole & Bro, 39 Fulton st, New York
Stanley, W F, & Co, Great Turnstile, Holborn, London
Ulmer, J C, & Co, 224 Champlain st, Cleveland, Ohio
Universal Drafting Mach Co, Blackstone bldg, Cleve
Weber, F, & Co, Philadelphia
Williams, Brown & Earle, 918 Chestnut st, Phila
Wiltstock, P & R, Berlin, S. 59, Germany
Young & Sons, 43 N. 4th st, Philadelphia

Insulating Materials.
Standard Paint Co, 103 William st, New York

Iron Work (Ornamental).
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia Pa
Brooks, T H, & Co, Cleveland, O
Rogers Iron Co, Springfield, O
Schrieber, L, & Sons Co, Cincinnati, O
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Walton Iron Co, Cincinnati, O

Iron Work (Structural).
(see Structural Steel and Iron Work.)

Jacks
Duff Mfg Co, Allegheny, Pa
Norton, A O, 286 Congress st, Boston
Watson-Stillman Co, 210 E 43d st, N Y

Labor (Italian).
Italo-American Trust Co, 725 Carpenter st, Phila
Julian Bros, 110 Mott st, New York
Yuzzolino, N, 73 Murray st, New York
(See Employment Bureaus).

Laboratories (Chemical and Testing).
Booth, Garrett & Blair, Philadelphia, Pa
Hunt, R W, & Co, Rookery, Chicago
McKenna, Chas F, 221 Pearl st, New York
Pittsburg Testing Laboratory, Pittsburg, Pa
Riehle Bros. Test & Machine Co, Philadelphia, Pa

Lamps (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Lathing (Metallic).
Berger Mfg Co, Canton, O
General Fireproofing Co, Youngstown, O
(see also Fireproofing.)

Lead (Pig).
Millar, Chas & Son Co, Utica, N Y
Ogden, J Edward Co, 147 Cedar st, New York

Lead Furnaces.
McLean, John, 298 Monroe st, New York
Ogden, J Edward Co, 147 Cedar st, New York
Union Iron Works, Hoboken, N J

Light (Contractors').
Kitson Hydro-Carbon Htg & Lighting Co, Phila
Macleod & Co, Walter, Cincinnati Ohio
Wells Light Co, 44 Washington st, New York

Locomotive Tires.
Latrobe Steel Co, 1200 Girard bldg, Philadelphia, Pa

Locomotives.
American Locomotive Co, 25 Broad st, New York
Baldwin Locomotive Works, Philadelphia, Pa
Heisler, Charles L, Erie, Pa.
Porter, H K Co, Pittsburg, Pa.

Locomotives (Contractors').
Avery, C F, 114 Liberty st, New York
Byers, John F, Machine Co, Ravenna, Ohio
Fitz-Hugh & Co, Chicago and New York
Porter, H K, Co, Pittsburg, Pa
Vulcan Iron Works, Wilkesbarre, Pa

Locomotives (Electric and Mining).
Baldwin Locomotive Works, Philadelphia, Pa
Brill, J G, Co, Philadelphia
General Electric Co, Schenectady, N Y
Jeffrey Mfg Co, Columbus, O
Koppel, Arthur, 66 Broad st. New York
Patton & Co, J. R., House bldg, Pittsburg, Pa
Porter, H K, Co, Pittsburg, Pa.
Westinghouse Electric & Mfg Co, Pittsburg

Locomotive Headlights.
(see Headlights, Locomotives.)

Locomotives (Second hand).
(See Railway Equipment, Dealers.)

Lubricants.
Dixon, Jos, Crucible Co, Jersey City, N J

Lubricators.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Lumber (Creosoted).
American Creosote Works, Ltd, New Orleans, La
Atlantic Creo & Wood Pres Wks, 10 Bridge St, N Y
Carbolineum Wood Pres Co, 13 Park Row, N Y
International Creosoting & Con Co, Galveston, Tex
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Stamford, Conn
(see also Creosoting)

Lumber (Dock).
Vanderbilt & Hopkins, 126 Liberty st, New York

Machinery (Second hand).
Braden, Jas A, 514 Park Row bldg, New York
Briggs, Marvin, 12 Broadway, New York
Carlin Machy & Supply Co, 186 Lacock st, Allegheny
Carlin, W J, 34th st & A V R R, Pittsburg, Pa
Chicago House Wrecking Co, W. 35th & Iron sts, Chicago
Contractors' Supply Co, 1531 Monadnock blk Chicago
Contractors' Plant Depot, 27 William st, New York
Driscoll, J. T., McCormick bldg Chicago
Fitz-Hugh Co, Monadnock block, Chicago
Grant & Harper Machy Co, Park Row bldg, New York
Low, Edgar S, Co, Empire bldg, Pittsburg
Saxton, J C, 18 Broadway, New York
Troy Public Works Co, 1 Mann bldg, Utica, N Y
Whitney, O B, 39 Cortlandt st, New York

Machine Tools.
Manning, Maxwell & Moore, 85 Liberty st, New York
Niles Tool Works Co, 136-138 Liberty st, New York

Mail Chutes.
Cutler Mfg Co, Rochester, N Y

Manholes and Covers.
(See Sewer and Street Castings; also Castings, Iron.)

Measure (Rotary).
Steckenreiter Mfg Co, 98 Lake st, Chicago, Ill

Measuring Tapes. (Steel).
Chicago Steel Tape Co, 508 Temple Court, Chicago
Johnston, Robt, Wilkesbarre, Pa
Keuffel & Esser, 127 Fulton st, New York
Lufkin Rule Co, Saginaw, Mich
Starrett, L S, Co, 86 Crescent st, Athol, Mass

Merchandise Checks.
Am. Ry Supply Co, 24 Park Place, New York

Mechanical Draft.
American Blower Co, Detroit
Buffalo Forge Co, Buffalo, N Y
Sturtevant, B F, Co, Boston, Mass
(see also Blowers.)

Metal Hose (See Hose, Metal).

Meters (Current).
Berger, C L. & Sons, 9 Province st, Boston, Mass

Meters (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Meters (Gas).
Pittsburg Meter Co East Pittsburg, Pa

Meters (Water).
Buffalo Meter Co, 363 Washington st, Buffalo
Builders Iron Foundry, Providence, R I
Cole, E S, 135 Park Row bldg, New York
Hersey Mfg Co, Boston, Mass
Neptune Meter Co, 254 Broadway, New York
Pittsburg Meter Co, East Pittsburg, Pa
Thomson Meter Co, 79 Washington st, Brooklyn, N Y
Union Water Meter Co, Worcester, Mass
Worthington, Henry R, Brooklyn, N Y

Mining Machinery and Equipment.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Diamond Rock Drill Co, 95 Liberty st N Y
Blanton, E A, Jr, The Bourse, Philadelphia
Bradley Pulverizer Co, 32 State st, Boston, Mass
Bucyrus Co, S. Milwaukee, Wis
Fairbanks, Morse & Co, Chicago
General Electric Co, Schenectady, N Y
Jeffrey Mfg. Co, Columbus, O
Lidgerwood Mfg Co, 96 Liberty st, N Y
Marion Steam Shovel Co, Marion, Ohio
Phillips Mine and Mill Supply Co, Pittsburg, Pa
Rand Drill Co, 128 Broadway, N Y
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Vulcan Iron Works, Wilkesbarre, Pa

Mortar Mixers.
Drake, C T, 300 W Jackson Boulevard, Chicago

Motors (Electric). (see Dynamos.)

Non-Conducting Covering.
U S Mineral Wool Co, 143 Liberty st, New York

Nut Locks.
National Elastic Nut Co, Milwaukee, Wis

Oil Burners.
Hammel, C A, 120 Fifth st, Los Angeles, Cal

Oil Cups.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Oil Mill Machinery.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Oilless Bearings.
No Am Metaline Co, 6 West av, Long Island City, N Y

Ore Handling Machinery.
(see Coal and Ore Handling Machinery.)

Packing.
Detroit Leather Specialty Co, 900 Michigan av, Detro
Robertson, Jas L, & Sons, 192 Fulton st, New York

Painting Machines (Pneumatic).
Hook, F E, Hudson, Mich
Macleod & Co, Walter, Cincinnati, O

Paint Pigment.
Internat'l Acheson Graphite Co, Niagara Falls N Y

Paints.
Carbolineum Wood Pres Co, 13 Park Row, N Y
Chilton Paint Co, 69 Cortlandt st, N Y
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos, Crucible Co, Jersey City, N Y
Goheen Mfg Co, Canton, Ohio
Heath & Milligan Mfg Co, Chicago
Hook, F E, Hudson, Mich
National Paint Works, Williamsport, Pa
Rinald Bros, 1142 N Hancock st. Philadelphia
Sicilian Asphalt Paving Co, Times bldg, New York
Standard Paint Co, 103 William st, New York
Toch Bros, New York
Zibell Damp-Resisting Paint Co, 290 Front st, N Y

Paint (Cold Water).
Bird & Co, J A & W, 10 Well st, Boston

Patent Attorneys.
Hill, Thos A, 261 Broadway, New York
Straley, Hasbrouck & Schloeder, 257 Broadway, N Y

Pattern Letters.
Butler, A G, 284 Pearl st, New York

Paving (Bituminous-Macadam).
Warren Bros Co, 93 Federal st, Boston

Paving Blocks (Stone).
Leopold, J, & Co, 18 Broadway, New York
(See also Stone.)

Paving Brick (see Brick).

Perforated Metals.
Harrington & King Perforating Co, Chicago, Ill

Pile Driving Machinery.
American Hoist & Derrick Co, St. Paul, Minn
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee Wis
Contractors' Plant Mfg Co, Buffalo, N Y
Lidgerwood Mfg Co, 96 Liberty st, N Y
Mundy, J S, Newark, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago, Ill

Pile Hammers.
Vulcan Iron Works, Chicago, Ill

Piling.
American Creosote Works, Ltd, New Orleans, La
Atlantic Creosot. & Wood Pres. Co, 10 Bridge st, N Y
Eppinger & Russell Co, 56 Broad st, New York
Meredith J P, Memphis, Tenn
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co, Norfolk, Va
Southern Creosoting Co, Slidell, La
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Pipe (Cast Iron).
Builders Iron Foundry, Providence, R I
Byers, John F, Machine Co, Ravenna, Ohio
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Dimmick Pipe Co, Birmingham, Ala
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Fox, John, & Co, 253 Broadway, New York
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Utica, N Y
Reading Foundry Co, Ltd, Reading, Pa
Snow, T W, 360 Dearborn st, Chicago, Ill
U S Cast Iron Pipe & Fdry Co, 217 La Salle st, Chicago
Warren Foundry & Machine Co, 160 Broadway, N Y
Wood, R D, & Co, Philadelphia, Pa

Pipe (Culvert). See Pipe, Vitrified Clay.

Pipe (Lead).
Millar, Chas, & Son Co, Utica, N Y

Pipe (Riveted Steel).
Carroll-Porter Boiler & Tank Co, Pittsburg, Pa
Columbiana Boiler Co, Columbiana, Ohio
Gillespie, T A, Co, Pittsburg, Pa
Keeler, E, Co, Williamsport, Pa
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg Pa
Means & Fulton Iron Works, Birmingham, Ala
Pelton Water Wheel Co, 134 Main st, San Francisco
Scaife, Wm B, & Sons Co, Pittsburg, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Warren City Tank & Boiler Works, Warren, O
Weigele Riveted Steel Pipe Works, Denver, Colo

Pipe (Spiral Riveted).
Abendroth & Root Mfg Co, Newburgh, N Y
Am Spiral Pipe Works, 64-66 Wabash ave, Chicago

Pipe (Vitrified Clay).
American Sewer Pipe Co, Pittsburg, Pa
Blackmer & Post Pipe Co, St Louis, Mo
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Evens & Howard Fire Brick Co, St Louis, Mo
Illinois Mfg Co, Macomb, Ill
Jackson, John H, Albany, N Y
Millar, Chas, & Son Co, Utica, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th st, N Y
Robinson Bros & Co, Akron, O
Standard Sewer Pipe Co, Rochester, N Y

ADVERTISERS' CLASSIFIED DIRECTORY.

Pipe (Wooden).
American District Steam Co, Lockport, N Y
Excelsior Wooden Stave Pipe Co, San Francisco
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Pipe (Wrought Iron).
Crane Co, Chicago, Ill
Fox, John & Co, 253 Broadway, New York
National Tube Co, Pittsburg
Pittsburg Pipe & Iron Co, Allegheny, Pa
California Redwood Pipe Co, Los Angeles

Pipe Casing.
U S Mineral Wool Co, 143 Liberty st, New York

Pipe Cutting and Threading Machines.
Saunder's, D, Sons, Yonkers, N Y

Pipe Fittings and Flanges.
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Latrobe Steel Co, Girard bldg, Philadelphia
National Tube Co, Pittsburg
Thompson, J, & Co, Van Horn & Sophia sts, Phila P
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Joint (High Pressure).
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Jointers.
Watkins, Thos, Johnstown, Pa

Pipe Laying (Submarine).
Falcon, Jos G, 1110 Ayers Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Pipe Line Supplies.
Ogden, J Edward Co, 147 Cedar st, New York

Pipe Tapping Machines (See Tapping Machines)

Plaster.
Rock Plaster Co, 11 Broadway, N Y

Plows (see Scrapers and Plows).

Plumbers' Supplies.
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Millar, Chas, & Son Co, Utica, N Y

Pneumatic Tools.
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Columbus Pneumatic Tool Co, Columbus, Ohio
General Pneumatic Tool Co., Moutour Falls, N Y
Helwig Mfg Co, St Paul, Minn
Philadelphia Pneumatic Tool Co, Philadelphia
Slocomb, F F, & Co, Wilmington, Del
(see also Riveting Machines)

Poles (Wooden)
(see Piling.)

Portable Light (see Light, Contractors').

Portable Tracks.
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Power Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Power Transmission (Electric).
General Electric Co, Schenectady, N Y
Leffel, Jas, & Co, Springfield, O
Pelton Water Wheel Co, 134 Main st, San Francisco
Westinghouse Electric & Mfg Co, Pittsburg

Power Transmission (Rope).
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Case Mfg Co, Columbus, O
Cresson, Geo V, Co, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Phila

Pressure Gages (Recording)
Bristol Co, Waterbury, Conn

Pressure Regulators
d'Esté, Julian, Co, 15 Canal st, Boston
Foster Engineering Co, Newark, N J
Union Water Meter Co, Worcester, Mass

Pulleys.
Case Mfg Co, Columbus, O
Dodge Mfg Co, Mishawaka, Indiana

Pulverizers (Ore and Cement).
Allis-Chalmers Co, Home Ins bldg, Chicago
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark, J C, Box 525, Atlanta, Ga
Cresson, Geo V, Co, Philadelphia
Kent Mill Co, 120 Broadway, New York
Newell Mfg Co, 149 Broadway, New York
Smidtha, F L & Co, 66 Maiden lane, New York
West Pulverizing Machine Co, Jersey City, N J

Pumps and Pumping Machinery.
Allis-Chalmer Co, Home Ins bldg, Chicago
American Well Works, Aurora, Ill
Barr Pumping Engine Co, Philadelphia
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Bonnot Co, Canton, Ohio
Cameron, A S, Steam Pump Works, New York
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Cook Well Co, St Louis
d'Auria Pumping Engine Co, 941 Drexel bldg, Phila
Davidson, M T, 52 Keap st, Brooklyn, N Y
Dean Bros' Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co, Holyoke, Mass
Deming Co, Salem, Ohio
Downie Pump Co, Downieville, Pa
Edwards, Jos, & Co, 414 Water st, New York
Epping-Carpenter Co, Pittsburg
Fairbanks, Morse & Co, Chicago
Flint & Walling Mfg Co, Kendallville, Ind
Goulds Mfg Co, Seneca Falls N Y
Guild & Garrison, So 10th st, Brooklyn, N Y
Hill Machine Co, Anderson, Ind
Heisler Pumping Engine Co, Erie, Pa
Knowles Steam Pump Works, 81 Liberty st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati, O
Lawrence Machine Co, Lawrence, Mass
McGowan, John H, Co, Cincinnati, Ohio
Norwalk Iron Works Co, South Norwalk, Conn
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Quimby, Wm E, 141 Broadway, N Y
Roots, P H & F M, Co, Connersville, Ind
Scranton Steam Pump Co, 151 Franklin ave, Scranton
Snow Steam Pump Works, 139 Liberty st, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio
U S Wind Engine & Pump Co, Batavia, Ill
Wood, P K, 209 No Main st, Los Angeles, Cal
Wood, R D, & Co, Philadelphia
Worthington, Henry R, Brooklyn, N Y

Pumps (Air Lift).
Bacon Air Lift Co, 160 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Union Steam Pump Co, Battle Creek, Mich

Pumps (Artesian Well).
Davidson, M T, 141 Broadway, New York
Downie Pump Co, Downieville, Pa
Wood, P K, 209 No Main st, Los Angeles, Cal

Pumps (Centrifugal).
Baldwinsville (N Y) Centrifugal Pump Works
Bucyrus Co, South Milwaukee, Wis
Edwards, Jos, & Co, 414 Water st, New York
Erie Pump & Engine Co, Erie, Pa
Klugsford Foundry & Machine Works, Oswego, N Y
Lawrence Machine Co, Lawrence, Mass
Maxfield, H E, & Co, 136 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
Temple Pump Co, 13th Place, Chicago
Wood, R D, & Co, Philadelphia

Pumps (Diaphragm).
Boston & Lockport Block Co, 160 Commercial st, Boston
Edson Mfg Co, 255 Atlantic ave, Boston

Pumps (Electric).
Davidson, M T, 141 Broadway, New York
Deming Co, Salem, Ohio
Goulds Mfg Co, Seneca Falls, N Y
Quimby, Wm E, 141 Broadway, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Pumps (House Service).
Quimby, Wm E, 141 Broadway, New York

Pumps (Mining)
Davidson, M T, 141 Broadway, New York
Goulds Mfg Co, Seneca Falls, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Scranton Steam Pump Co, Scranton, Pa
Snow Steam Pump Works, 139 Liberty st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, P K, 209 No Main st, Los Angeles, Cal

Punching Tools.
Peis & Co, Henry, 66-68 Broad st, New York

Pumps (Rotary).
Connersville Blower Co, Connersville, Ind

Pyrometers.
Bristol Co, Waterbury, Conn

Quarrying Machinery.
Flory, S, Mfg Co, Bangor, Pa
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, New York
Rand Drill Co, 128 Broadway, New York
Sullivan Machinery Co, 136 Adams st, Chicago
Tyrone Foundry & Machine Co, Tyrone, Pa

Quick Railways.
Hildenbrand, Wm, 1 Broadway, New York

Rail Fastenings.
Continuous Rail Joint Co of America, Newark, N J
National Elastic Nut Co, Milwaukee
N Y Rail Insulation & Equip Co, 200 Market st, Newark
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rail Joints.
Bonzano Rail Joint Co, 22 South 15th st, Philadelphia
Continuous Rail Joint Co of America, Newark, N J
McConway & Torley Co, Pittsburg, Pa
Weber Ry Joint Mfg Co Cotton Exch bldg, N Y

Rails (Relaying).
Continental Equipment Co, 5-11 Battery Place, N Y
Donaldson & Newton, 421 Chestnut st, Philadelphia
Grant & Harper Machy Co, Park Row bldg, New York
Hyde Bros, 952 Lewis bldg, Pittsburg
Johnson, Chas F, 908 Ellicott square, Buffalo
Robinson & Orr, 419 Wood st, Pittsburg
Tallon, C J, 308 Market st, San Francisco

Rails (Steel).
Baumgarten & Bro, A F, Pittsburg, Pa
Buffalo Steel Co, Tonawanda, N Y
General Supply & Const'n Co, 8-10 Bridge st, N Y
Koppel, Arthur, 68 Broad st, New York
Pennsylvania Steel Co, Steelton, Pa

Railway Equipment (Dealers).
Apex Equipment Co, 11 Broadway, New York
Davenport Machine Works, Davenport, Ill
Fitz-Hugh & Co, Monadnock bldg, Chicago
Low, Edgar S, Co, Empire bldg, Pittsburg
Males Co, Ætna bldg, Cincinnati
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Watson, Benjamin, 66 Beaver st, New York
Wood & Co, 545 Marquette bldg, Chicago, Ill

Railway Signals (Pneumatic)
Pneumatic Signal Co, Broad-Exchange bldg, N Y

Railway Ties.
American Creosote Works, Ltd, New Orleans La
New Orleans Wood Preserving Works, New Orleans
Vanderbilt & Hopkins, 126 Liberty st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Railway Track Specialties.
Diamond State Steel Co, Wilmington, De
N Y Switch & Crossing Co, Hoboken, N J
Railroad Supply Co, Bedford bldg, Chicago
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Railways (Industrial).
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Riveting Machines.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Allen, John F, 370 Gerard ave, New York
General Pneumatic Tool Co, Montour Falls, N Y
Manning, Maxwell & Moore, 85 Liberty st, New York
Rand Drill Co, 128 Broadway, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia Pa
(see also Pneumatic Tools.)

Road Rollers and Machinery.
Acme Road Machinery Co, Frankfort, N Y
Austin Mfg Co, F C, Harvey, Ill
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Erie Machine Shops, Erie, Pa
Goods Roads Machinery Co, Kennett Square, Pa
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Heisler, Chas L, Erie, Pa
Huber Mfg Co, Marion, Ohio
Iroquois Iron Works, 178 Walden ave, Buffalo, N Y
Kelly-Springfield Road Roller Co, Springfield, O
Oastler, W C, 156 Fifth ave, New York
Port Huron Engine Co, Port Huron, Mich
Scholl, Julian, & Co, 126 Liberty st, New York
Stuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Rock and Ore Crushers.
Acme Road Machinery Co, Frankfort, N Y
Allis-Chalmers Co Home Ins bldg, Chicago
Austin Mfg Co, F C, Harvey, Ill
Aultman Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Climax Road Machine Co, Marathon, N Y
Cresson Co, Geo V, Philadelphia
Farrel Foundry & Machine Co, 26 Cortlandt st, N Y
Good Roads Machinery Co, Kennett Square, Pa
Scholl, Julian, & Co, 126 Liberty st, New York
Smidth, F L & Co, 66 Maiden lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Tyrone Foundry & Machine Co, Tyrone, Pa
Western Wheeled Scraper Co, Aurora, Ill

Rock Drills (see Drills, Rock)

Rolling Doors, Partitions, etc. (Steel)
Kinnear Mfg Co, Columbus, Ohio
Wilson, J G, 3 W 29th St, New York

Roofing.
Standard Paint Co, 103 William st, New York

Roofing (Corrugated).
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Scaife, W B, & Sons Co, Pittsburg

Rope (Manila).
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Smith, S Morgan, Co, York, Pa

Scales (Weighing).
Fairbanks, Morse & Co, Chicago
Richardson Scale Co, 15 Park Row, New York

Schools (Correspondence).
Am. School at Armour Inst. of Tech. Chicago
(For Directory of Engineering Schools see p. 4.

Scrapers and Plows.
Austin Mfg Co, Manhattan bldg, Chicago
Contractors' Plant Mfg Co, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 189 La Salle st, Chicago
Stuart Scraper Co, Oberlin, O
Smith & Sons Mfg Co, Kansas City, Mo
Syracuse Chilled Plow Co, Syracuse, N Y
Western Wheeled Scraper Co, Aurora, Ill

Screens (Stone and Sand).
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, O
Climax Road Machine Co, Marathon, N Y
Harrington & King Perforating Co, Chicago, Ill
Taylor Iron & Steel Co, High Bridge, N J

Screens (Water-Works).
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Seamless Drawn Tanks and Tubes.
National Tube Co, Pittsburg

Separators (Oil and Steam).
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Robertson, Jas L, & Sons, 192 Fulton st, New York

Sewage Disposal.
Cameron Septic Tank Co Monadnock block, Chicago
Hygienic Suburban Sewage Co, 1123 B'way, N Y

Sewer Braces.
Dunn Mfg Co, Pittsburg, Pa
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind

Sewer and Street Castings.
Sessions Foundry Co, Bristol, Conn
(see also Castings, Iron.)

Sewer Pipe (see Pipe, Vitrified)

Shafting.
Case Mfg Co, Columbus, O
Cresson, Geo V, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Poole, Robt, & Son Co, Baltimore, Md

Sheet Iron Work.
Am Sheet Steel Co, Battery Park bldg, New York
Petroleum Iron Works Co, Washington, Pa
Scaife, Wm B, & Sons Co, Pittsburg

Sheet Steel.
Am Sheet Steel Co, Battery Park bldg, New York
American Steel & Wire Co, New York & Chicago

Shutters (Fire Proof).
Kinnear Mfg Co, Columbus, Ohio

Skylights.
Plenty, Josephus, Jersey City, N J
Valle & Young, Baltimore, Md

Sluice Gates.
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Smoke Stacks (see Stand-Pipes and Tanks).

Speed Governors.
Foster Engineering Co, Newark, N J

Stamp Mills.
Allis-Chalmers Co, Home Ins bldg, Chicago

Stand-Pipes and Tanks.
Caldwell, W E, Co, 300 East Main st, Louisville, Ky
Chicago Bridge & Iron Co, Chicago
Columbiana Boiler Co, Columbiana, O
Enterprise Boiler Co, Youngstown, O
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Co, East Boston, Mass
Keeler, E, Co, Williamsport, Pa
King Bridge Co, Cleveland, O
Means & Fulton Iron Works, Birmingham, Ala
North Penn Iron Co, 3d and Sedgley ave, Phila
Petroleum Iron Works Co, Washington, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, Wm B, & Sons Co, Pittsburg
Sharon Boiler Works, Sharon, Pa
Smith, Theo, & Sons Co, Jersey City, N J
Snow, T W, 360 Dearborn st, Chicago
Strutners-Wells Co, Warren, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Tippett & Wood, Phillipsburg, N J
U S Wind Engine & Pump Co, Batavia, Ill
Warren City Tank & Boiler Works, Warren, O
Wood, R D & Co, Philadelphia, Pa

Steam Shovels.
Austin, Mfg Co, Manhattan bldg, Chicago
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee, Wis
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Marion Steam Shovel Co, Marion, O
Mead, John A, & Co, 7 Broadway, New York
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, Boston, Mass
Thew Automatic Shovel Co, Lorain, O
Toledo Foundry & Machine Co, Toledo, O
Vulcan Iron Works Co, Toledo

Steam Specialties.
American District Steam Co, Lockport, N Y
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
d'Esté, Julian, Co, 15 Canal st, Boston
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Lunkenheimer Co, Cincinnati, O
Manning, Maxwell & Moore, 85 Liberty st, New York
Maxfield H E, & Co, 136 Liberty st, New York
Robertson, Jas L, & Sons, 192 Fulton st, New York
Union Steam Spec. Co, 151 Franklin ave, Scranton, Pa
(see also Separators, Oil and Steam.)

Steam Traps.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Crane Co, Chicago, Ill
d'Esté, Julian, Co, 15 Canal st, Boston
Sturtevant, B F, Co, Boston, Mass

Steel Clips.
Streeter, H A 31 & 33 Indiana st, Chicago

Steel Flanges (Weldless).
Latrobe Steel Co, Girard bldg, Philadelphia

Steel Ties.
Koppel, Arthur, 68 Broad st, New York

Stone.
Bound Brook (N J) Crushed Stone Co
Leopold, J, & Co, 18 Broadway, New York
Thiel, August, Guttenberg, N J
Tomkins, Calvin, 120 Liberty st, New York

Street Railway Supplies.
Brill, J G, Co, Philadelphia, Pa

Street Sprinklers and Sweepers
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Edson Mfg Co, 255 Atlantic ave, Boston
Good Roads Machinery Co Kennett Square, Pa
Oastler Steam Road Roller, 156 Fifth ave New York

Structural Steel and Iron Work.
Berlin Construction Co, Berlin, Conn
Brooks, T H, & Co, Cleveland, O
Eichleay, John, Jr, Co, Pittsburg
General Supply & Const'n Co, 8-10 Bridge st, N Y
Kratzer, W N, & Co, 3218 Smallman st, Pittsburg
Link Belt Engineering Co, Nicetown, Phila
Means & Fulton Iron Works, Birmingham, Ala
Minneapolis Steel Mach'y Co, Minneapolis, Minn
National Skylight & Const'n Co, 120 Liberty st, N Y
N J Foundry & Machine Co, 9 Murray st, N Y
North Penn Iron Co, 3d and Sedgley ave, Phila
Pedrick, E K, Co, 120 Liberty st, New York
Schreiber, L, & Sons Co, Cincinnati, O
Sharon Boiler Works, Sharon, Pa
Snare & Triest, 39 Cortlandt st, New York
Snead & Co Iron Works, Foot of Pine st, Jersey City, N J
Streeter, H A, 31 & 33 Indiana st, Chicago
Tippett & Wood, Phillipsburg, N J
Walton Iron Co, Cincinnati
(see also Bridges and Buildings.)

Stump Pulling Machine.
Milne Mfg Co, 894 Eighth st, Monmouth, Ill

Submarine Armor (see Diving Apparatus).

Superheaters (Steam).
Power Specialty Co, 126 Liberty st, New York

Tacks, Thumb
Albrecht, C R, 62 Fulton st, New York

Tanks.
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Hodge Boiler Works, East Boston, Mass
Pacific Tank Co, Los Angeles, Cal.
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, W B, & Sons, Pittsburg
Steel Storage Elevator & Const'n Co, Buffalo, N Y
Warren City Tank & Boiler Works, Warren, O
(see also Stand Pipes and Tanks.)

Tapes (Steel). See Measuring Tapes.

Tapping Machines (Pipe).
Smith, Anthony P, Mfg Co, Newark, N J

Tents.
Murray & Co, 329 S Canal st, Chicago

Test Borings (see Artesian Wells).

Testing Laboratories (see Laboratories).

Testing Machines.
Fairbanks-Sinclair Machine Co, 109 N 22 st, Phila
Riehle Bros Test & Mach Co, 1424 N 9th st, Phila

Thermometers (Recording).
Bristol Co Waterbury, Conn

Tie Plates.
Diamond State Steel Co, Wilmington, Del
Railroad Supply Co, Bedford bldg, Chicago

Ties
Koppel, Arthur, 68 Broad st, New York
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Time and Cost Keeping.
Industrial Time & Cost Keep. System, Bantam, Conn

Time Detectors.
Am Watchmen's Time Detector Co, 294 B'way, N Y
Imhauser, E, & Co, 206 Broadway, New York

Tracing Cloth.
Aloe, A S, Co, 414 North Broadway, St Louis
Favor, Ruhl & Co, 54 Park Place, N Y
Hardtmuth, L & C, 40 Barclay st, New York
(see also Instruments, Engineering, etc.)

Transformers.
General Electric Co, Schenectady, N Y

Traps (Sewer).
Sewer Trap Mfg Co, 61 Beekman st, New York

Trench Machines.
Carson Trench Machine Co, Boston, Mass
Potter Mfg Co, 2010 N W ave Indianapolis, Ind

Tubing (Flexible Metallic).
Moore, Chas C, & Co, 22 First st, San Francisco

Turbines.
Camden Water-Wheel Wks, Camden, New York
Dayton Globe Iron Works Co, 7 Ludlow st, Dayton
Leffel, Jas, & Co, Springfield, O
Poole, Robert, & Son Co, Baltimore, Md
Risdon-Alcott Turbine Co, Mt Holly, N J
Smith, S Morgan Co, York, Pa
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, R D, & Co, Philadelphia, Pa

Turnbuckles.
Cleveland City Forge & Iron Co, Cleveland
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Turntables.
American Bridge Co, New York
Boston Bridge Works, 47 Winter st, Boston, Mass
Chicago Bridge & Iron Co, Chicago
Columbia Bridge Co, Pittsburg
Fort Pitt Bridge Works, Pittsburg, Pa
Hunt, C W, Co, Richm'd Terrace, W N Brighton, N Y
King Bridge Co, Cleveland, O
Koppel, Arthur, 68 Broad st, New York
McClintic-Marshall Construction Co, Pottstown, Pa
Mo Valley Bridge & Iron Wks, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, O
Passaic Steel Co, Paterson, N J
Philadelphia Bridge Works, Pottstown, Pa
Phoenix Bridge Co, 1321 Arch st, Philadelphia
Virginia Bridge & Iron Co, Roanoke, Va
Wonham-Magor Eng. Wks, 29 Broadway, New York

Valve Boxes.
Cayuta Wheel & Foundry Co, Sayre, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Drummond, M J, & Co, 192 Broadway, N Y

Valves.
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Darling Pump & Mfg Co, Box E, Williamsport, Pa
(see also Hydrants and Valves.)

Valves (Gas).
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Ludlow Valve Mfg Co, Troy, N Y
Roots, P H & F M, Co, Connersville, Ind

Valves (Gate).
Cayuta Wheel & Foundry Co, Sayre, Pa
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Crane Co, Chicago, Ill
Millar, Chas, & Son Co, Utica, N Y
Walworth Mfg Co, Boston, Mass
Wood, R D, & Co, Philadelphia, Pa

Valves (Pressure Regulating).
Ross Valve Co, Troy, N Y
(see also Pressure Regulators.)

Valves (Steam).
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Ludlow Valve Mfg Co, Troy, N Y
Lukenheimer Co, Cincinnati, O

Valves (Stop).
Foster Engineering Co, Newark, N J
Reading Foundry Co, Ltd, Reading, Pa
Sweet & Doyle, Cohoes, N Y
Thompson, J, & Co, Philadelphia

Varnish and Colors.
(see Paints.)

Vault Lights.
Brooks, T H, Cleveland, Ohio

Ventilators.
Buffalo Forge Co, Buffalo, N Y
Merchant & Co, inc, Philadelphia, Pa

Vises (Parallel).
Merrill Bros, 467 Kent ave, Brooklyn

Wagons and Carts.
Austin, F C, Mfg Co, Harvey, Ill
Climax Road Machine Co, Marathon, N Y
Columbia Wagon Co., Columbia, Pa.
Good Roads Machinery Co, Kennett Square, Pa
Austin & Mfg Co, 189 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
U S Sanitary Co, Washington, D C
Watson Wagon Co, Canastota, N Y
Western Wheeled Scraper Co, Aurora, Ill

Water Motors.
Backus Water Motor Co, Newark, N J

Water Softening Plants.
Industrial Water Co, 136 Liberty st, New York
Kennicott Water Soft'n Co, 406 Great North. bldg, Chic
N Y Continental Jewell Filtration Co, 15 Broad st, N Y
Pittsburg Filter Mfg Co, Pittsburg

Water Storage Systems.
Acme Water Stor & Const'n Co, Park Row bldg, N Y

Water Wheel Governors.
(see Governors, Water-Wheel.)

Water Wheels.
Cassel Auto Water Motor Co, Seattle, Wash
Doble, Abner, Co, Fremont & Howard, San Francisco
Pelton Water Wheel Co, 134 Main st, San Francisco
(see also Turbines.)

Water-Works Tools and Supplies.
Flint & Walling Mfg Co, Kendallville, Ind
Smith, A P, Mfg Co, Newark, N J

Well Drilling Machinery.
American Well Works, Aurora, Ill
Cook Well Co, St Louis, Mo
Star Drilling Machine Co, 104 Fulton st, New York
Williams Bros, Ithaca, N Y

Wharf and Pier Builders.
Atlantic, Gulf & Pacific Co, 13-21 Park Row, N Y
McMullen, Arthur, & Co, 13-21 Park Row, New York
O'Rourke, John F, Park Row bldg, N Y
Phoenix Bridge Co, Phoenixville, Pa
San Francisco Bridge Co, 220 Market st, San Francisco

Wheelbarrows.
Cockburn Barrow & Machine Co, Jersey City, N J
Syracuse Chilled Plow Co, Syracuse, N Y
Steubner, G L, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill

Whistles.
Crosby Steam Gage & Valve Co, Boston
Lunkenheimer Co, Cincinnati, O

Windmills.
Flint & Walling Mfg Co, Kendallville, Ind
Temple Pump Co, 13th Place, Chicago
U S Wind Engine & Pump Co, Batavia, Ill

Wire, Wire Rope and Cables.
American Steel & Wire Co, New York & Chicago
Broderick & Bascom Rope Co, St Louis
Leschen, A, & Sons Rope Co, St Louis
Macomber & Whyte Rope Co, 21 S Canal st, Chicago
Roebling's, John A, Sons Co, Trenton, N J
Trenton Iron Co, Trenton, N J
Williamsport Wire Rope Co, Williamsport, Pa

Worm Gearing.
Morse, Williams & Co, Philadelphia, Pa

Wire Fence (see Fencing).

Wood Preserving (see Creosoting).

Wrenches.
Bryshaw Drop Forge Wks, 20th & Clearfield sts, Phila

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